

Madras Observatory

THE ORIGINAL

ASTRONOMICAL OBSERVATIONS,

MADE IN THE COURSE OF

A VOYAGE towards the SOUTH POLE,

AND

ROUND THE WORLD,

In his MAJESTY'S Ships the RESOLUTION and ADVENTURE,

In the Years MDCCLXXII, MDCCLXXIII, MDCCLXXIV, and MDCCLXXV,

By WILLIAM WALES, F. R. S.

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MDCCLXXVII.

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I N T R O D U C T I O N.

AT the time when the Voyage was first planned that gave birth to the following Observations, it had long been the opinion of learned men, that there must be vast tracts of land, at that time undiscovered, towards the South Pole. The probability of this opinion induced his Majesty to fit out two ships, the Resolution and Adventure, to determine this interelling point in Geography, amongst many others, equally curious, although not altogether so important as this. But it is not to be supposed that this opinion had any other foundation than mere probability: The Mathematical, or Philosophical reasons, which had from time to time been offered to the Public, having no foundation in nature; and the notion which some persons have got concerning the necessity of a counterpoise, is so very unphilosophical, that I am much surprised how so many ingenious Gentlemen have happened to adopt it. It is well known to Mathematicians, that every body, while at rest, however irregular, will be *in equilibrio*, when suspended on any line that passes through its center of gravity; nor will the revolution of a body, thus circumstanced, about an axis, be disturbed hereby, if the irregularities lie in the direction of its axis of rotation, as they are supposed to do in the case before us: if, indeed, they lie in any other direction, the matter will be different; but even then they must be much greater than any mountains that we know of to cause a sensible aberration in the axis of the earth.

If now, to an irregular mass of rigid matter, circumstanced as our earth is, there be added a quantity of matter perfectly fluid, it

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is well known, that it will distribute itself into the vallies, or rather along those parts of the rigid matter which are nearest to the center of gravity, without any regard to the center of the mass; and consequently, if there be not a sufficiency of the fluid matter to overflow and cover the whole, those parts will be last covered which are towards that part of the globe, or body, which is least dense; and this might be the case even if the globe was a perfect sphere, without any irregularities in its surface. The same purpose might be effected, though perhaps in a more limited degree, merely by irregularities of the surface, even if the earth was every where equally dense. At the same time it is proper to observe, that, although there is no necessity, yet it was highly probable, before this experiment was made, that the irregularities both of density and surface might be nearly equal in both hemispheres; and on that foundation alone, I believe, the Voyage was ordered to be undertaken.

As soon as the Voyage was determined on, the Commissioners of Longitude, ever attentive to the improvement of Science, came to a resolution of sending out two persons, one in each ship, to make such observations as appeared to them most conducive to the advancement of useful knowledge, and were pleased to appoint Mr. WILLIAM BAYLY, late assistant at the Royal Observatory, and myself, for that purpose; at the same time, furnishing us with every instrument necessary for the undertaking, of the best sort, and constructed by the most approved makers, a list of which follows.

1. A Portable Observatory.
2. An Astronomical Clock, made by Mr. Shelton.
3. An assistant Clock, made by Mr. Monk.

4. A Transit

TO THE RIGHT HONOURABLE

J O H N Earl of S A N D W I C H,

First Commissioner of the Boards of ADMIRALTY and
LONGITUDE, &c. &c. &c.

M Y L O R D,

IT affords me the highest Satisfaction that I am permitted to address the following Sheets to your LORDSHIP, as the Patronage of a Nobleman to whom these Sciences, and Literature in general, owe so much, and to whom this Work in a peculiar Manner appertains, will undoubtedly secure to it a favourable Reception from all Persons of Taste and Learning. It is indeed to your LORDSHIP, and the other Honourable and Learned Gentlemen who constitute the Board of Longitude, that the Existence of this Work is to be attributed; and to the same fostering Care and generous Encouragement we are indebted for the present Accuracy of our Instruments, the Correctness of our Tables, and I may with Truth add, the Skill and Dexterity of the intelligent Mariner, who now makes those Observations with a Degree of Success, which a few Years ago was despaired of.

That

D E D I C A T I O N .

That your LORDSHIP may long enjoy the high and important Offices, which you now fill so much to the Honour and Interest of the Nation, and to the Advancement of every useful Art and Science, is, I am well assured, the sincere Wish of every Friend to the true Interests of this great Empire, and of none more than of,

MY LORD,

Your LORDSHIP's much obliged,

most obedient, and

faithful humble Servant,

CHRIST'S HOSPITAL,
April 26th, 1777.

WILLIAM WALES.

INTRODUCTION.

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4. A Tranfit Instrument, made by the late Mr. Bird.
 5. An Astronomical Quadrant, made by the same excellent artist.
 6. A Reflecting Telescope, of two feet focal length, made by the same.
 7. An achromatic Refracting Telescope, of $3\frac{1}{2}$ feet, and triple object glafs, made by Mr. Dollond.
 8. An achromatic divided Object-glafs, micrometer to ditto, made by Mr. Dollond.
 9. A Hadley's Sextant, made by the same.
 10. Another, made by Mr. Ramsden.
 11. An Azimuth Compass, made by Mr. Adams.
 12. A pair of Globes, made by ditto.
 13. A Dipping Needle, made by Mr. Nairne.
 14. A Marine Barometer, by ditto.
 15. A Wind Gage, invented by Dr. Lind of Edinburgh, and made by Mr. Nairne.
 16. Two Portable Barometers, made by Mr. Burton.
 17. Six Thermometers, made by ditto.
 18. A Theodolite, with a level, and a Gunter's Chain, made by the same.
 19. An Apparatus for trying the heat of the sea-water at different depths.
 20. Two Time-keepers, one made by Mr. Larcum Kendall, on Mr. Harrifon's principles, and the other by Mr. John Arnold.
- Mr. Bayley had a duplicate of each of the above instruments, excepting the Tranfit-instrument, which was to be used in common
by

by each of us ; and that both his Time-keepers were made by Mr. Arnold. The following account of these articles will not, I presume, be unacceptable.

Of the Observatory.

The Observatory was contrived by my associate Mr. W. Bayly, and is undoubtedly one of the most convenient portable Observatories that has yet been made. The upright sides consist of eight staves, *AB*, *CD*, &c. (see Plate II.) about two inches diameter, and five feet and an half long, which supported a circular ring, 1, 2, 3, 4, &c. to 21, of eight feet diameter, and the covering, *r*, *q*, 9, 10, &c. to 21, *o*, *p*, of oiled canvass. The staves are of beach-wood, armed at the bottom with spikes, to stick into the ground, and at the top with small iron pins, fitted to holes which are made to receive them in the ring. The ring is composed of eight circular arches, of about three feet long, two inches broad, and an inch thick, made of beach-wood, and are readily put together, or taken asunder by means of strong iron plates, screwed fast with wood screws to the end of one arch, and by screws and nuts to the end of another, for the purpose of frequent screwing and unscrewing without danger of wearing out the holes, as would be the case with wood screws entering the wood itself. Into the outer edge of this ring are drove small staples, 1, 2, 3, 4, &c. and to the upper edge of the canvass, answerable thereto, are sewed several small hooks, which being hooked into these staples, serve to support the upper edge of the canvass, while its lower edge just reaches to the ground: The two parts of the canvass, 2, 1, *o*, *p*; 9, *q*, *r*, are supposed to be unhooked from the staples 1, 2, 3, 4, and 5, 6, 7, 8 respectively, and thrown back to shew the inside of the Observatory, and the manner of fixing up the Clock, to be described hereafter: *BE* is a brace of the same
fort

fort of wood, screwed fast to the top of the staff AB , by a screw at B , and to the bottom of the staff DC at E . These braces, from the top of one staff to the bottom of the next, kept the whole upright circular frame very steady. $F G H I K L M N$ is another circular ring exactly of the same dimensions and construction with the former, on which it rests. To this the roof of the Observatory is screwed by means of ten long screws, which pass through the ends of the rafters at $F G H I K$, &c into iron nuts fixed in this upper ring for that purpose. The rafters MP , RP , IU , KL , &c are attached to the crown-piece PTU by hinges, as represented at 7, and U ; and the two short rafters FQ , NO , are attached to the two RP , MP , also by hinges at O , and Q . By means of these hinges the roof is made to open or close like an umbrella, and of course, if disengaged from the circular ring $F R H$, &c will fold together, and may be packed up in a very small compass.

The covering of the roof is of very thick canvas, many times painted, and comes down so far as to hang over at the eaves about four inches. The crown-piece, PTU , is about eight inches in diameter, and covered with a circular piece of canvas like that the roof is covered with. An eye-bolt n passes through its center, and is fastened on the inside by the nut o . This eye bolt is intended for the reception of the hook u , which is fastened to the cord $m b g c d$, passing over a pulley at W , fixed in the top of the pole $I \angle$. Towards the bottom of this pole there is fixed a lever $g b$, by means of the clamp $e f$, and its fellow on the opposite side, and the lever, turns on the iron bolt f . The cord $m b c d$ passes through a hole c in the lever, and is drawn tight when the end b of the lever is turned upwards, and then made fast. Now if the end b of the lever be brought down towards z , and there fastened by means of the

bucket, or endless cord ik , the roof of the Observatory will be drawn up from off the ring 1, 2, 3, &c. and may be turned round by twisting or untwisting of the cord, until the opening $NO P Q E$ is towards the sun, or any other object, of which an observation is wanted to be made. When the observation is completed, the lever may be released, and the roof let down again to rest with its whole weight on the lower ring, as it will then be less liable to be disturbed by the wind: There are also eight small staples on the inside edge of the lower ring 1, 2, 3, &c. and as many small hooks, corresponding to them, on the upper, or that to which the rafters of the roof are fastened. These hooks, when the roof is lowered down, are to be hooked into the staples, and the cord then drawn tight, to prevent, yet farther, the effect of the wind. The opening $N, O P, Q E$, is covered, when not in use, by the flap, or roll of spare canvas $Q R G S$, which is of the same sort, and painted in the same manner, as that which covers the roof. The whole of this Observatory, except the three poles $W Z$, $W X$, and $W Y$, when taken down and packed up properly, is contained in a chest six feet and nine inches long, and about twenty inches square: The poles, which form the tripod, are of about fifteen feet long, and four inches diameter, may be laid amongst the spare booms of the ship, or if they should be thought too cumbersome there, may be cut out of the woods, or purchased for a trifle at any place where they are wanted.

Of the Clocks.

BOTH Clocks were made by Mr. Shelton, being furnished with compound pendulums of that sort usually called Gridiron Pendulums; and they escaped dead seconds in the late Mr. Graham's manner. They were fixed up by means of an iron block and
frame,

frame, which is represented in Fig 3 Plate I where $ABCD$ is a flat block of cast iron, about three or four inches thick, two feet long, and 13 or 14 inches broad, weighing between three and four hundred pounds. This block was laid horizontally on four wooden piles shod with iron, and driven deep into the ground, where the soil admitted of it; and where it did not, was placed on the firm rock. $EFGH$ is a frame of wrought iron, about an inch square, every where except at the top FG , where it is about three inches broad, and three fourths of an inch thick, and it is screwed firmly to the block at E and H by the screws aa . IK and LM are two braces of wrought iron, an inch square, screwed firmly also to the block at I and L , by the screws nn , and to the frame $EFGH$ at K and M by the screws oo . The bottom of the clock case rested on the flat horizontal surface $ILEH$, with its back against the flat bar FG , to which it was screwed fast by two strong screws, passing through the back-board of the case, and the mortices S, S .

This method of fixing up a clock on temporary occasions, was the invention of the very ingenious Mr John Smeaton, F R S. It has many advantages, as it may be set up in an hour's time, and may be effected in many situations, where the old method of letting down a post could not be made use of, particularly in rocky places, which are often the only eligible situations that can be found for observing near the sea shore, it also affords an exceeding steady foundation, and is subject to no inconvenience, that I know of, but the expansion of the frame $EFGH$ and braces IK and LM , which I found would be sometimes so great as to lift the clock case entirely off the block $ABCD$, and thereby render it loose, and subject to acquire motion from the momentum of the pendulum. This however may, I think, be completely remedied by having a cross

cross bar towards the bottom of the iron frame, as represented by the dotted lines *b c*, *d e*, to which the clock case may be screwed fast in the same manner as at the top, by strong screws and nuts passing through the back board and the mortices $\mathcal{Q}\mathcal{Q}$. There will indeed one inconvenience arise from this mode of fixing the bottom of the case, namely, that the clock must be set perpendicular to the horizon, entirely by the diving of the piles on which the iron block lies, and which will be very troublesome and very tedious to do, and of course take up much time, which in the cases where this apparatus will be most wanted, is often extremely precious, and on that account I would propose that there should be two strong arms fixed to the cross bar *b c*, *d e*, instead of the mortices $\mathcal{Q}\mathcal{Q}$, projecting forward, at such a distance as to admit the clock-case freely between them. In each of these arms should be a pretty strong screw, and by easing one of these screws, and tightening the other, the clock might very readily be brought perfectly upright, after the iron block had been laid nearly horizontal, and when it is so, both screws may be made to press against the case with equal and a moderate force. Another screw might be added in the iron bar *b c d e*, if thought proper, to set it upright the other way, but this is not so necessary.

As neither of these remedies were thought of at the time Captain Cook set out on his present voyage, it was thought advisable to try other methods; and that represented in Plate II was made choice of to be used by the Gentlemen who make the Astronomical Observations in the course of the voyage which he is now gone upon; the first hint of which, except what is to be met with in the Appendix to my Lord Mulgrave's Voyage towards the North Pole, was from a drawing of Mr Bayly's, presented to the Commissioners

millioners of Longitude, and by them put into the hands of Mr Arnold, watch-maker, to execute, and who made some deviations from the original drawing, which he thought was for the better. In the engraving, $\mu\upsilon\phi\lambda$ represents the Clock, supported clear of the ground, by the pieces $\phi\Omega$, ΓE , $\Sigma\Theta$, which are of mahogany, about two inches thick, and about two inches and a half broad, and screwed firmly to the case of the Clock at ϕ , Γ , and Σ , with strong iron screws, and nuts. These pieces rest on three orken piles, Λ , Π , and Δ , drove deep into the ground, and may be raised or lowered by means of the screws α , β , γ , as may be necessary, to bring the Clock-case to stand perpendicular. Two of those pieces, $\phi\Omega$, and $\Sigma\Theta$, are screwed to the two sides of the Clock-case, very near the front, and just below the rising-board, and the third ΓE , directly in the middle of the back-board, at exactly the same height with the other two. $\delta\iota$, $\Omega\eta$, and $\rho\vartheta$, are three horizontal braces of mahogany about two inches square, morticed fast into the pieces ΓE , $\phi\Omega$, and $\Sigma\Theta$, at δ , Ω , and ϑ , and force pretty hard against the case of the Clock at ι , η , and ρ , that is, $\delta\iota$ directly against the middle of the back-board, and $\Omega\eta$, $\vartheta\rho$ against the two fore corners of the case, the ends η and ρ of these two last being cut in an angle exactly to fit them. The case of the Clock, particularly the back-board, is made very strong, and is but just of a height sufficient to contain the pendulum.

Before I quit this subject, it may not be amiss to take notice of some very extraordinary irregularities, which happened in the going of the Clocks, as well as to bring into one point of view their several rates of going at the different places where they were set up.

The Clock B, which, I believe, has not been remarked in the body of the Work, gained $5''.03$ a day on fyderial time from March 28th to April 1st, 1772, when fixed up at the Royal Observatory in Greenwich-Park, to pieces of wood let into the wall of the Observatory; that is, in the manner which the Transit Clock at that place is fixed up: and the Clock C lost $0''.373$ a day on fyderial time from March 25th to March 28th, 1772, when fixed up at the same place, and in the same manner. The mean vibrations of the pendulum were $1^{\circ}53'$ each way. This Clock, with the same length of pendulum, lost $20''\frac{1}{4}$ a day on fyderial time, from July 1st to the 9th, 1772, at Drake's Island in Plymouth Sound, latitude $50^{\circ}21'\frac{1}{4}$ N., and longitude $4^{\circ}16'\frac{1}{4}$ W. of Greenwich; and the pendulum vibrated $1^{\circ}50'$ each way.

At Fonchiale, in Madeira, latitude $32^{\circ}33'\frac{1}{4}$ N., longitude $17^{\circ}11'\frac{1}{4}$ W., B lost $36''.6$, and C $1'15''$ a day on fyderial time, from July 30th to August 1st, 1772: the pendulum of B vibrated $1^{\circ}40'$ each way, and that of C $1^{\circ}53'$.

At the Cape of Good Hope, latitude $33^{\circ}55'\frac{1}{4}$ S., longitude $18^{\circ}23'\frac{1}{4}$ E., B lost $1'15''.43$, and C $1'27''.35$, a day on fyderial time, from November 2d to the 14th, 1772: the mean vibrations of the former were $1^{\circ}37'\frac{1}{4}$, and those of the latter $1^{\circ}43'\frac{1}{4}$.

At Dusky Bay in New Zealand, latitude $45^{\circ}47'\frac{1}{4}$ S., longitude $166^{\circ}18'$ E., B gained $4''.066$ on fyderial time, from April 5th to the 21st, 1773; and its mean vibrations were $1^{\circ}35'$ each way.

At Queen Charlotte's Sound in New Zealand, latitude $41^{\circ}6'$ S., longitude $174^{\circ}18'\frac{1}{4}$ E., C lost $1'29''.003$ a day on fyderial time, from
April

April 20th to May 20th, 1773; and its mean vibrations were $1^{\circ} 52'$ each way. This Clock went here with greater regularity from day to day than it had done at any other place, except that some time in the night between the 14th and 15th of May, it seems to have stopped exactly $12''$, which is a most extraordinary circumstance, especially when we consider Mr Bayly's remark on that head, p 36 and no way, that I know of, to be accounted for

At Point Venus in Otaheite, latitude $17^{\circ} 29' \frac{1}{2}$ S, longitude $210^{\circ} 25' E$, B lost $1' 28''$,₄₄, and C $2' 10''$ ₆₉ a day on syderial time, from August 27th to the 31st, 1773 the pendulum of the former vibrated $1^{\circ} 39'$, and that of the latter $1^{\circ} 46' \frac{1}{2}$ each way

At Queen Charlotte's Sound, B lost $21''$,₁₁₆ a day, from November 6th to the 22d, and vibrated $1^{\circ} 38'$ each way and C lost at the same place $1' 8''$,₄₇ a day, from December 7th to the 15th, 1773; and its pendulum vibrated $1^{\circ} 46'$ each way. The ball of the pendulum was now about 7 feet above the sea at low-water mark when here before, it was about $84 \frac{1}{2}$ feet above it

At the Cape of Good Hope this Clock lost $1' 36''$,₀₁₆ a day on syderial time, from March 23d to the 28th, when Mr Bayly removed the Observatory and Clock to another part of the garden, after which, from the 28th to April 10th, 1774, it lost at the rate of $1' 17''$,₇₁ on syderial time. I have remarked in p 76 that Mr Bayly says, he is absolutely certain no alteration happened in the length of the pendulum, and I make no doubt but that he examined it with the utmost attention but if some alteration in its length did not take place, and which, I think, might possibly happen, without his being able to discover it, it is utterly impossible to account for so great and sudden a change. The pendulum vibrated $1^{\circ} 46'$ each way

The

The Clock B lost $1' 22''.64$ a day on syderial time at Otaheite, latitude $17^{\circ} 29'\frac{1}{2}$ S., and longitude $210^{\circ} 25'$ E., from April 23d to May 9th, 1774; but I here reject its loss between April 30th and May 1st, as it appears to have lost exactly $1'$ more on that day than on any other; a circumstance I cannot account for *properly*, as I never, that I know of, left the case or face of the Clock unlocked. There is, however, little doubt but that some *witty* Gentleman or other found means to open it, and put the Clock a minute back, I suppose, to try whether or no the *Astronomer* could find it out. The vibrations of the pendulum were $1^{\circ} 35'$ each way until April 30th, on which day they dropped to $1^{\circ} 30'$, and after that decreased gradually, so that on May 7th the vibrations were no more than $1^{\circ} 15'$. I could find no visible cause for this alteration; the Clock was not more than $\frac{1}{2}$ down: however, I wound it up, and in a few hours it increased its vibrations again to $1^{\circ} 35'$, and continued to vibrate over that arch until it was taken down on May 10th.

On setting it up a second time at Queen Charlotte's Sound in New Zealand, I had much trouble in getting it to go at all, as most of its parts, and particularly the steel rods of the pendulum, were covered with rust. It lost at the rate of $15''.58$ a day on syderial time, from October 22d to November 5th, 1774, and went pretty regularly after I did get it to go. I here added fresh oil, and its vibrations were then $1^{\circ} 37'\frac{1}{2}$ each way.

At Christmas Sound in Terra del Fuego, latitude $55^{\circ} 22'$ S., longitude $289^{\circ} 58'\frac{1}{2}$ E., B gained $36''.52$ a day on syderial time, between December 23d and 26th, 1774; and the mean vibrations of the pendulum were $1^{\circ} 37'\frac{1}{2}$ each way. This was the highest latitude that I had an opportunity of trying it in.

March 23d.

INTRODUCTION

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March 23, 1775, I fet B up a second time at the Cape of Good Hope, and from that time to April 23, it lost at the rate of $42''$, 207 a day on Syderial time the pendulum vibrated $1^{\circ} 37'$, each way from the perpendicular until April 9, and after that time $1^{\circ} 40'$ These matters are brought yet nearer into one point of view in the following table

Places	Clock B gains or loses on Syderial Time	Latitude	Longitude	Time.
Greenwich	+0 5,03	51 28 $\frac{1}{2}$ N	0 0	March 1772
Madeira	-0 36,6	32 33 $\frac{1}{2}$ N	17 11 $\frac{1}{2}$ W	July 1772
Cape of Good Hope	-1 15,43	33 55 $\frac{1}{2}$ S	18 23 $\frac{1}{2}$ E	November 1772
Ditto	-0 42,21			April 1775
Dusky Bay	+0 4,07	45 47 $\frac{1}{2}$ S	166 18 E.	April 1773
Point Venus	-1 28,42	17 29 $\frac{1}{2}$ S	210 25 $\frac{1}{2}$ E	August 1773
Ditto	-1 22,64			May 1774
Queen Charlotte's Sound	-0 21,12	41 6 S	174 18 $\frac{1}{2}$ E	November 1773
Ditto	-0 15,58			October 1774
Terra del Fuego	+0 36,52	55 22 S	289 58 $\frac{1}{2}$	December 1774

Places	Clock C I loses on Syderial Time	Latitude	Longitude	Time
Greenwich	-0 0,37	51 28 $\frac{1}{2}$ N	0 0	March 1772
Drake's Island	-0 20,62	50 21 $\frac{1}{2}$ N	4 16 $\frac{1}{2}$ W	July 1772
Madeira	-1 15,0	32 33 $\frac{1}{2}$ N	17 11 $\frac{1}{2}$ W	July 1772
Cape of Good Hope	-1 27,35	33 55 $\frac{1}{2}$ S	18 23 $\frac{1}{2}$ E	November 1772
Ditto	-1 36,02			March 1774
Ditto	-1 17,71	41 6 S	174 18 $\frac{1}{2}$ E	April 1774
Queen Charlotte's Sound	-1 29,0			May 1773
Ditto	-1 8,47	17 29 $\frac{1}{2}$ S	210 25 E	December 1773
Point Venus	-2 10,69			August 1773

On reconsidering the circumstance of the Clocks different rates of going at the Cape of Good Hope in November 1772 and April 1775, I am rather inclined to alter my opinion, (see p 131) and to conclude

conclude that I made a mistake in setting the pendulum to its proper length, either when here in November 1772, or at Dusky Bay in New Zealand, after which time it was never altered; especially as the difference corresponds nearly to that which would arise from a whole revolution of the nut which supports the ball of the pendulum, namely 28", or 29", increased by the same quantity that the Clock had gone faster on being set up a second time both at Point Venus and Queen Charlotte's Sound: and it appears farther, by comparing its rate of going at the Cape with its rate at Madeira, which is nearly in the same latitude, that if this was the case, the mistake must have happened on setting it up in November 1772. Now if this correction be allowed, this Clock will have agreed with itself as near, perhaps, as must ever be expected for any clock to do; especially when set up at such distant times, and put away, in the intervals, in damp and improper places, as will ever be the case on board ships, unless a proper place be made and fitted up on purpose for it: and this I think might readily be done on board any ship; in which case, it may not be useless to add, that this place must not be near either side of the ship, nor near the fore-part of it; and must be well lined with strong painted canvas, and over that with thick baize. A space of 20 inches, by 15 broad, and 4½ feet high would be fully sufficient for the purpose.

The assistant clock had a simple pendulum, whose rod was of white deal, and was always adjusted so that it would beat with the Astronomical Clock without sensible deviation for several minutes together; it shewed only minutes and seconds, was wound up in the common way that 24 hour clocks generally are, by pulling at the string, and constructed to give a very loud beat, and to strike with great exactness at the end of every minute, for the convenience

convenience of catching the second with more certainty in observing. The loudness of the beat is of great use when the wind is high; or when, on account of any other noise or disturbance, the Astronomical Clock cannot be heard, and was particularly useful to us, whose Observatories stood generally on the sea-shore, where the roaring of the surf seldom permitted us to hear the Astronomical Clock all the time it was going.

Of the Transit Instrument

THIS Instrument being now too well known to require a general description, I shall only just mention some particulars which are peculiar to that we made use of, and the manner of fixing it up. The object glass of the telescope, which was achromatic, was of 3 $\frac{1}{2}$ feet focus, and aperture 3 $\frac{1}{2}$ inches. It magnified about 50 times. The axis rested on two angular pieces of bell-metal, which were attached to two strong plates of brass, about six inches square; and these plates were let into two posts of Riga timber, six inches by eight, and screwed firmly to them by strong screws which came quite through the posts from the opposite side to that which the brass plates were let into. The angular pieces of bell-metal were made to slide on the brass plates, one in a vertical, and the other in an horizontal direction, by means of very fine steel screws, in order to adjust the Instrument, and bring it into the plane of the meridian. The posts had each of them a double tenon at the bottom, which fitted into two double mortices in a sill of the same timber, 10 inches by six or seven, and five feet in length, and they were braced together about three feet above this sill by a horizontal brace, and at the angles by cross braces, When

When the Instrument was to be set up, a hole was dug five feet long, about 15 or 16 inches wide, and three feet deep, in a direction at right angles to the meridian; and the posts and fill, thus braced together, let carefully down into it, the Instrument was then put into its place, and directed to a mark which had before been determined to be in the meridian by means of the Azimuth Compass, after allowing for the variation, by moving the frame a little one way or other in the hole as might be required, and after that, the axis was made horizontal by hanging on the spirit level intended for adjusting the Instrument, and raising one end of the fill, or lowering the other, as was most convenient, until both ends of the axis were of the same height. The hole was then filled with earth and stones intermixed, and well rammed in, taking great care, in this operation, not to twist, or force the frame out of the plane of the prime vertical, by frequently putting the Instrument into its place, trying the level, and directing the telescope to the mark. This being done, the nicer adjustments of the Instrument were made by means of the screws which govern the two angular pieces of bell-metal on which it rests; and I never found that the Instrument, thus set up, would vary materially in its position.

Of the Astronomical Quadrant.

THIS instrument has been so well, and so fully described by the Rev. Mr. Maskelyne, Astronomer Royal, in his instructions relative to the observation of the Transit of Venus (See Nautical Almanac for 1769), that little remains to be said on this head. It may not however be amiss to mention a circumstance or two wherein my instrument appears to have differed from that which Mr. Maskelyne described. And first, the arch of excess of my Quadrant, or that
which

most exquisite ones, and furnished with moveable polar axes, for the convenience of adapting them to any latitude whatsoever

Of the Hadley's Sextants

Of these we had each of us two, one made by Mr Dollond, with his new apparatus for adjusting the back horizon glass, and the other by Mr Ramsden. The latter was made by order of the Royal Society, in 1768, and I had before used it in my Voyage to and from Hudson's Bay, and knew its value. Its radius was 15 inches, and it was cut out of one solid plate of hammered brass, about one ninth of an inch thick, leaving only the frame and cross-braces of about one inch and one-third broad, and these were supported on the back with perpendicular, or, as they are usually called, edge-bars, screwed very firmly thereto by screws, which passed through the frame of the Sextant into the bars themselves. The index also was very broad and strong, and stiffened by a perpendicular bar, that was screwed fast on its upper side. The massiveness of these bars and frame rendered the instrument rather heavy, but I have never met with one that preserved its figure, plane, and adjustments, so well as this did, and these properties are so very essential, that I think they should never be given up, or even run the least risk of having impaired, for the trifling consideration of reducing the weight of the instrument a few ounces, which I never found in the least inconvenient, after I became used to it. This instrument had some disadvantages, which are now generally remedied, such as the smallness of the horizon-glass; and, what is much worse, that glass, small as it was, did not reflect a full field of view when the index was put back to its
greatest

on account of my want of time to consult a greater number of Authors, be comprised in a small compass

I have not been able to meet with the least hint of any Astronomical Instrument being used at sea before the latter end of the 15th century; about which time, as *Jo Pet Maffei* tells us in his *Historiæ Indicæ Martinæ de Bohemia*, a disciple of *Regiomontanus*, recommended the Astrolabe for taking altitudes on board a ship, but, whether this was then put in practice, does not appear, and it seems much to be doubted, whether the cross-staff, which was invented about that time, or very soon after, was not the first Astronomical Instrument used at sea this at least is certain, that all the old writers, whom I have met with, speak of the cross staff as a very ancient instrument, except *John Werner* of Nuremberg, and who, as far as I can find, is the first person that has described it; but it does not appear to me, from what he there says, that he was the inventor, but rather that he looked on it as an instrument in some measure then known, and he recommends it to seamen, as proper for observing the distance of the Moon from the Sun, or a Star, in order to determine the Longitude at sea *Werner's* book was printed in 1514, and I find the same instrument again recommended, and for the same purpose, by *Peter Apian*, in his *Cosmography*, which, by the date of his preface, appears to have been written in, or before the year 1524 About this time the method of finding the Longitude at sea by observations of the Moon's distance from the Sun or Stars is mentioned by several authors, and particularly by *Gemma Frisius*, in his *Principia Astronomiæ et Cosmographiæ*, printed in 1530, who also mentions the doing of it by means of a Clock or Time keeper He was also, if I mistake not, the first person who added three transoms to the cross staff, which

vations on the use of this instrument, among which is a method of correcting the error arising from the excentricity of the eye, and after mentioning this method of dividing very particularly, adds, " I freely confess that this method of dividing the staff into many sensible parts was not invented by me, *but had been long used in England* by many skilful mathematicians The first who used it, as I am well informed, was Richard Chanceler, a most skilful and ingenious mathematical instrument-maker, and whose name I more readily publish, as he is now dead, and has left behind him no memorial of his excellency, except some instruments fabricated with the greatest art and exactness, and the sweetest memory of his usefulness and skill in the minds of a few mathematicians yet alive'

I have been thus particular, because *Tycho Brahe*, at p 403 of his works, published at Franckfort in 1648, giving an account of the same star, takes notice of this passage of Mr Digges's, and adds, " But when I studied at *Leipsic* about twenty eight years ago, I used a cross-staff thus divided, which I had out of the shop of that excellent mathematician *Homelius*, by favour of his servant *Bartholomew Schultet* but whence *Homelius* had this, or whether he himself invented it, is with me uncertain " It is plain, from the very words here made use of, that *Tycho* meant to dispute the claim set up by Digges, for his deceased friend, to the invention, but I think with little probability of success for *Tycho* did not go to *Leipsic* before the year 1562, or 1563, as we learn from the account of his life, written by *Gassendus*, and *Tycho* himself, in his epistle to *Christopher Botbman*, written in 1587, and printed at Uranibourg in 1596, says he was then about seventeen years old; which, as he was born in the year 1546, must have been in 1563, that is, about ten years only before Mr Digges wrote Now Digges expressly says, that the
inventor

printed at Brussels in 1631. In the preface to this publication *Veinier* claims the invention as his own, and very justly observes that by this method, minutes are easily distinguished in q^{ly} , add of three inches radius, the truth of which I have myself often convinced of in instruments of Mr Ramsden's making. "E

The fore staff and astrolabe appear to have been the only instruments that were used at sea before the latter end of the sixteenth century, about which time the back-staff, as it was then called, on account of the observer's standing with his back to the sun, began much to be made use of. This instrument was invented by the celebrated Captain John Davis, who gave name to the Straits which separate West Greenland from America, and was by him first described, in a little book called the *Seaman's Secrets*, published in 1594, but this book I have not been able to meet with, however, there is a description of the instrument, together with a representation thereof, given by *Adrian Metius*, in his *Astronomia Institutio*, printed in 1605, and afterwards in his tract *De Arte Navigandi*, published at *Frankfort* in 1624, also in his *Doctrina Spherica*, lib 5 published at the same place, in 1630.

Originally this instrument had but one arch, namely, that on which the sight-vane slides, and the shade-vane was fixed on a straight rod, morticed into the upper side of the radius of the instrument, at a greater distance from the center, or horizon vane, than the arch itself but it did not long retain that form, for about the year 1600, or soon after, the arch was extended up to 90° , partly below, and partly above the radius, and the shade-vane fixed on that, to any proposed, even degree that was found most convenient, and in this state it was generally known by the name of the bow. It was not, however, many years before it underwent

some others, and the last, the plough, Elton's, and many other quadrants none of which remained long in use, and very few deserved to have been used at all

I come now to relate the inventions of instruments for measuring angles by reflection, the first hint of which was, I am firmly persuaded, given by that truly ingenious and indefatigable mechanician, Dr Hooke, about the year 1681, as appears from Dr Birch's History of the Royal Society, vol iv p 102, and also from his Life and Posthumous Works, p xxiii and 503, published by R Waller, Esq, in 1705; but the angles, in his instrument, being measured by one reflection only, rendered it not so convenient for sea purposes as it would otherwise have been. The next who *published* any thing on this head, was John Hadley, Esq, Vice president of the Royal Society, and at that time famous for having perfected, and brought into use, the reflecting telescope. This Gentleman, on the 13th of May 1731, presented to the Royal Society an instrument constructed in pretty near the same form that they now are, and also a description of the same, in which he gave a *very* full account both of the theory and manner of using this instrument. But although Mr Hadley was the first who published, yet it is no less certain that the incomparable Sir Isaac Newton had long before that time invented an instrument of this kind differing little from that of Mr Hadley's, except in the manner of applying the telescope. But this, like many other of Sir Isaac's discoveries, was not publicly known till several years afterwards, namely on the death of Dr Halley in 1742, when a paper, in Sir Isaac's own hand writing, containing a description of the instrument, was found amongst the papers of that gentleman, and it was published, together with a drawing of the instrument, in N^o 465 of the Philosophical

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went another alteration, and received its present form. For the shade vane being then placed at a great distance from the horizon vane, the penumbral shade became so extensive, that neither its beginning, end, or center, could be judged of with any tolerable degree of certainty, and what was yet worse, if the sun did not shine very bright indeed, the shadow could not be seen at all. It was therefore deemed necessary to lessen the radius of that part of the arch on which the shade vane is fixed, in order to obtain a more distinct, and stronger shadow. It is not now known to whom we owe these improvements. Some think they were made by the inventor himself, but this I much doubt. The last improvement that was made to this instrument, at least of any consequence, was the substitution of a lens, whose focal length was just equal to the radius of the lesser arch, instead of the shade-vane. This, although in itself so simple, was a very considerable improvement to the instrument, for the spot of light, formed on the horizon vane in the focus of the glass, will be bright enough to be seen very distinctly, when the sun is so very faint that the least trace of the shadow from the vane cannot be discerned. It is indubitably, at p. 50, vol. 1. of Sir Jonas Moore's *New System*, that this was the invention of Mr. Hunked, the first Astronomer-Royal, but others say it was contrived by the late Dr. Edmund Halley, and adapted to that instrument in his voyage to the Island of St. Helena in 1677. It is not improbable that both might think of it.

These three instruments, namely the astrolabe, fore-staff, and Davis's quadrant, underwent many other alterations, and appeared under a great variety of shapes that are not taken notice of above. From the first came the semi-circle, the sea-rings, and sea-quadrant, the second produced the demi-croix, Mr. Hood's staff, and

some others; and the last, the plough, Elton's, and many other quadrants: none of which remained long in use, and very few deserved to have been used at all.

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sophical Transactions for the year 1742. As there was no date to this paper, the exact time of Sir Isaac's discovery cannot now be ascertained: there is not, however, the least doubt of its being long prior to Mr. Halley's in 1731, as Sir Isaac Newton died in 1727, and for some years before, had not thought much of these things, it is therefore matter of much surprize that Dr. Halley should not recollect, and produce this paper of Sir Isaac's, when Mr. Halley's was publicly read, and thereby secure to his, then lately deceased, and ever to be admired friend, the prior invention of this most excellent instrument, to which he had, without doubt, an incontestible right. It is also most probable that Dr. Halley could have decided whether or not Sir Isaac's thought was prior to Dr. Hooke's in 1681, as Mr. Stone will have it in his Appendix to the Translation of Bion's Instruments, where he says, "The first of these instruments for taking the moon's distance from the sun, was invented long ago by Sir Isaac Newton, as appears in a paper of Sir Isaac's own hand writing, found amongst those of the late Dr. Halley, and the very instrument itself, that Sir Isaac either made, or caused to be made, so long ago as when Dr. Halley went about making the catalogue of the stars in the Southern hemisphere, which was in the year 1672, was not long ago to be seen at Mr. Herth's in the Strand." But little dependence can be placed on what he has here advanced. That an instrument of this kind may have some time been made by Sir Isaac's direction, is very probable, but not at the time here mentioned: for in the first place, Dr. Halley did not set out for Saint Helena until the latter end of 1676, that is, at least four years after the time mentioned by Stone: and it is almost as certain, that when he did go, he had no instrument like this with him, because in his Tract entitled *Catalogum Stellarum Australium*, published after his return, in 1679, and which is now before me,

me, he gives a list of the instruments that he was provided with on that occasion, in which no instrument of the kind appears; and it is scarcely to be credited that he would leave out of the catalogue an instrument which he must have found so useful, and that had been invented by so great a man, expressly on that occasion, and for the purpose of observing the moon's distance from the sun and stars, if any such instrument had at that time existed; and more especially, as it is well known that the Doctor had always that method of finding the longitude much at heart, and he repeatedly mentions it in this publication *.

If this instrument was ever made at all for Dr. Halley, it is most probable that it was done about the time when he went, in the Paramore Pink, to observe the variation of the compass; that is, in the years 1698, 1699, and 1700: although I cannot help thinking that if he had then had any instrument of the sort, he would have left some account of its success in his journals, which, as far as I can find, he has not done.

The principle on which this most excellent instrument is founded, is so natural and obvious, that no less than five persons have come to my knowledge, exclusive of Dr. Hooke, who used but one reflection, that have invented and made it, independent of one another; and that nearly in the same form. After Sir Isaac Newton and Mr. Hadley, or rather before the latter, Mr. Thomas Godfrey of Philadelphia, invented a quadrant to measure angles by reflection.

* Since writing the above, I have been informed that at the time when Mr. Hadley's paper was read, Dr. Halley did declare he had one of Sir Isaac Newton's, describing an instrument similar to Mr. Hadley's, and which was given to him in 1700, or 1701; but that he did not then know where to find it.

INTRODUCTION

XXXIII

tion, which was sent to sea about the latter end of the year 1750 but I cannot find with what success, nor yet in what manner it was constructed, whether he used two reflections or only one. The next, in point of time, was the late Joseph HUNTS, Esq, sometime Warden of the Mint, and who, as I have been very credibly informed, invented an instrument of this sort, without knowing that any thing of the kind had been done before. And, lastly, it uncontestedly appears, from several letters to the late Rev Mr ROWNING, that the same thing was again done, about the years 1752 or 1753, by Mr George HOLROYD, a very ingenious mechanician, then of the city of York, but now of Great Queen-street, Lincoln's-Inn Fields, together with some ingenious improvements, which shall be mentioned hereafter.

But, notwithstanding these inventions of private gentlemen, which were laid aside as soon as the respective authors came to know what had been done by others, who had gone before them, few or no attempts were made towards improving the construction of this instrument from the time of its discovery by Mr Hadley, until after the year 1743, about which time his patent ended, and the only contest among the generality of instrument-makers, after it got into their hands, was to try who could make it for the least money; which, it will readily be conceived, did not add much to its accuracy. Indeed, to such a deplorable state was this most excellent instrument reduced about the year 1750, that *M De la Caille* assures us in his *Ephemerides des Mouvements Celestes* for the years 1755 to 1765, two persons, observing at the same time, with two of the best quadrants that *they* had, and with the greatest care, would frequently differ 6, 7, and even 8 minutes, in the sun's altitude. We may indeed conclude, that either these instruments were made in France,

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or that proper care had not been taken in procuring them from good makers in England; for at all times instruments, sufficiently exact for observing altitudes, were to be had here, either from Mr. Jackson, who had made them for Mr. Hadley, under his patent; or, after his decease, from Mr. Bird.

The first persons, that I know of, who applied this quadrant to the actual measuring of distances, were Dr. Bradley, then Astronomer Royal at Greenwich, and Capt. John Campbell of the Royal Navy. The latter, about the year 1747, having, for his own amusement, measured the distances of several fixed stars with a quadrant of Jackson's making, shewed them to Dr. Bradley, who found them to correspond very exactly with their true distance in the heavens: and after this time, those gentlemen frequently made observations of the moon's distance from the sun and stars, and also of stars from one another, in company at Greenwich. In the course of these transactions, Dr. Bradley shewed Capt. Campbell an instrument, which had been contrived on purpose for making these observations by Mr. Hadley, and which was something like the Newtonian form; only the small speculum was made to slide in a groove, so as to stand either to the right or left of the great one, for the convenience of measuring the moon's distance from objects on both sides of her, without turning the plane of the quadrant downwards, as is now done, and which at that time was thought very inconvenient. Dr. Bradley had also by this time greatly improved Dr. Halley's Lunar Tables, and began to entertain great hopes of effecting thereby the so much wished-for method of finding the longitude at sea, by observations of the moon's distance from the sun and fixed stars; and the rather, as Mr. Bird had now begun to apply himself to improve the Hadley's Quadrant, in
which,

which, the principal defect, then complained of, was its bending when inclined out of a vertical position, and he succeeded so well, that in the year 1750, the late ingenious Mr Benjamin Robins made those observations with great success, in his voyage to the East Indies, with quadrants of only 7 inches radius

The illustrious Sir Isaac Newton had, long before, laid the foundation of the Lunar theory in his *Philosophiæ Naturalis Principia Mathematica* and about this time, many learned persons, both at home and abroad, turned their thoughts, either towards explaining and reducing that theory into tables, or to the making of observations for establishing those points which theory alone could not give, as well as for perfecting and examining the tables after they were made: for experience had by this time abundantly shewn, that accurate tables were not to be expected from theory alone. Amongst those who have exerted their talents this way, we may particularize the Rev Dr Bradley and Mr Thomas Simpson at home; and the celebrated Euler, Clairaut, Mayer, D'Alembert, Walmesley, and many others, abroad. Of those who applied themselves to the practical part, none did so much as our countryman Dr Bradley, whose skill, accuracy, and assiduity in the making of observations, undoubtedly left all his contemporaries far behind, but it must be owned, on the other hand, that the foreign mathematicians far outstripped us in the business of theory; owing, no doubt, to the diligence with which they have cultivated the modern method of analysis. Amongst those, none have distinguished themselves more than Messrs Euler, Clairaut, and Mayer; and if the two former have, in some respects, shewn greater depths of mathematical knowledge, the last has been much more happy in a skilful arrangement of his tables, for the ease and expedition of computation.

In consequence hereof, M. *Euler* published his Lunar Tables in the *Almanac Astronomique*, printed at Berlin for the year 1750; M. *Clairaut*'s Tables came out in the year 1752, in answer to the Prize Question, which had been proposed by the Imperial Academy of Peterburgh in 1750; and M. *Mayer*'s, in the Gottingen Acts for 1753; in which he not only excelled both the former in ease and elegance of computation, but in exactness also; owing, perhaps, in some measure, to the use which he made of a number of Dr. Bradley's observations, that had been sent by the late Mr. Gael Morris to M. *Euler*; and by him given to M. *Mayer*. In these Tables, the errors in longitude no where amounted to more than two minutes: and having yet farther improved them in 1755, he sent them over to the Right Honourable the Lords Commissioners of the British Admiralty, with a claim to such part of the reward, offered by Parliament for the discovery of the longitude at sea, as they might be thought to deserve. He also sent over at the same time a drawing and description of an instrument for measuring angles by reflection; both of which are inserted at the end of his Lunar Tables, since printed by order of the Commissioners of Longitude. This instrument is chiefly calculated to obviate the errors which might arise in setting off the total arch in instruments less than a complete circle, as well as the irregularities that may happen in the intermediate divisions.

These Tables were very carefully compared by Dr. Bradley with a great number of observations of the moon, made by himself at Greenwich, with the new instruments; and he says, that "in more than 230 comparisons they no-where differed from the observed longitudes so much as one minute and an half." As this quantity included both the error of the Tables and that of the Observations
also,

also, Dr Bradley inferred that the Tables must have generally given the moon's place true within little more than a minute of a degree, and therefore that the difficulty of finding the longitude at sea, by observations of the moon, so far as related to the accuracy of the Tables, was in a great measure happily got over, and that it only remained to prove whether or not the necessary observations could be made at sea with sufficient accuracy

In consequence of this representation, the Commissioners of Longitude ordered two of Mr Mayer's circular instruments to be made, by Mr Bird, and Captain Campbell, who had before given indubitable proofs of his skill and exactness in making observations of this sort, was desired to make trial of them at sea, as well as of Mr Hadley's quadrant. Accordingly, this excellent observer, and also Mr John Bradley, nephew to Dr Bradley, and now second Master at the Royal Academy at Portsmouth, made a great many observations of the moon's distance from the sun and fixed stars, in the years 1757, 1758, and 1759, which were afterwards computed by Dr Bradley, and found to correspond, in a most surprising manner with one another, and also with the longitudes of known places, within sight of the ship when the observations were made. In the course of these trials, it did not appear that the Hadleys quadrants were liable to any considerable errors, of the kind that Mr Mayer's instrument was intended to remove, and as that instrument is very limited in the extent of its radius, without becoming heavy and inconvenient, it was then totally laid aside.

In this state were these matters situate in the year 1760, when all the learned Societies and Academies of Europe began to prepare for observing the Transit of Venus, over the Sun's disc, in 1761;

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which our learned countryman, Dr. Edmund Halley, had, with immortal reputation to himself, foretold, and shewn the use which Astronomers might make of it, more than eighty years before it happened. This was a favourable opportunity for all those who were employed to make that important observation, and had the method of finding the longitude at sea by observations of the moon at heart, to exert themselves in reducing, and bringing it into practice: and in this respect none exerted themselves more, or with greater success, than our present Royal Astronomer, the Reverend Nevil Maskelyne. This ingenious and learned Gentleman, not only made a great number of those observations with success himself, but also so far convinced the officers of the several ships, which he sailed in, of the ease and certainty wherewith they could be made, and the utility they were of, that the method soon came almost universally into use in the East India Company's service, and has now been long established, as a branch of knowledge, absolutely necessary, in their naval officers. On his return home, he published the methods he had made use of, together with many excellent modes of abbreviating the computations, which at that time were tedious enough, and not to be effected with less than three or four hours labour by the most skilful computer, under the title of *The British Mariner's Guide to the Discovery of the Longitude at Sea*. In the same work he gave several methods, which before that time were not generally known, or made use of, for adjusting, and examining the Hadleys Quadrant with greater accuracy, as well as many other curious and useful hints, not so immediately relating to the subject before us, but which are nevertheless of great consequence to the mariner, and I believe now frequently used. Lastly, he recommended the publication of a *Nautical Almanac*, on a plan something

something similar to that which had formerly been suggested by *M De la Caille*, on which account he presented his book to the Commissioners of Longitude for their concurrence therein

In the mean time we had the misfortune to lose two of the greatest Astronomers that perhaps the world had ever produced, and who, of all men, had done most towards promoting and perfecting this method, namely, the Reverend Dr James Bradley, Astronomer Royal at Greenwich, and Savillian Professor of Astronomy at Oxford, and Mr Tobias Mayer, Professor of Oeconomy in the university of Gottingen, and author of the Lunar Tables, which have already been mentioned. The latter having been furnished with most excellent instruments, made by the late Mr Bud, through the munificence of his late most gracious Majesty King George the Second, to the use of which he applied himself with unremitting ardour, had, by comparing his observations made therewith, as well as those which he had formerly received from his ingenious contemporary Dr Bradley, with the numbers resulting from the theory, so far perfected the Lunar Tables before his death, that his widow was enabled to send over, in 1763, a set that did not differ more than one minute of a degree from any of Dr Bradley's observations, except in a very few instances, most of which had been marked by the observer as very dubious observations; but in much the greater number, the errors did not amount to quite half a minute

The comparisons of these new Tables with Dr Bradley's observations were made by the late very ingenious Mr Gael Morris, and who, by comparing the Tables which Mayer first sent over with Dr Bradley's observations, and altering the maximums of the equation where the observations seemed most to require it, had at that
time

time composed Tables of the moon's motions, which at all times give the moon's place in the Heavens to a very great degree of exactness: but having been indebted to Mr. Mayer both for his form and theory, he would never be prevailed on in his lifetime to let them be made public, lest they might be thought to interfere in the claim set up by that deserving Astronomer, to the reward granted by Parliament for the discovery of the longitude at sea.

The accuracy of the Tables, and the practicability of making the observations, being thus ascertained, many ingenious Gentlemen began to turn their thoughts towards reducing the length and difficulty of the computations; amongst whom, my truly worthy and ingenious friend, Mr. George Witchell, head-master of the Royal Academy at Portsmouth, was peculiarly happy in hitting on a device for throwing the whole of that part of the computation which relates to the reduction of the apparent to the true distance of the moon and stars, on account of parallax and refraction, into Tables; from whence it may, in many cases, be taken, almost at sight, and in the most troublesome ones by very easy proportions. This method was proposed to the Commissioners of Longitude in the month of September 1764, and so well approved of, that the Commissioners ordered him a gratuity of 300 *l.* and the tables to be computed and printed, which has since been done, with the addition of a column for correcting the effects of refraction, on account of the variable density of the atmosphere, under the inspection of the Rev. Dr. Anthony Shepherd, Plumian Professor of Astronomy and Experimental Philosophy in the University of Cambridge, and Master of Mechanics to his Majesty. By the help of these Tables, as I can from long experience assert, the abovementioned reduction may generally be made in about three minutes, and always in five.

Mr.

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Mr Witchell, at the same time, proposed the publication of a Nautical Almanac, and delivered in a plan on which it might be executed and Messrs Dunthorne and Lyons, very soon after, produced excellent Compendiums for abridging this reduction, by means of short tables and rules; and for which they were each of them rewarded with a gratuity of 50 l and their methods ordered to be printed.

Very early in the spring of the year 1765, the Rev Nevil Maskelyne being then returned from his voyage to Barbadoes, whither he had been in consort with my brother-in-law, Mr Charles Green, to make observations for the trial of Mr Harrison's Time keeper, and in which voyage they had both of them had abundant proofs of the possibility of making the lunar observations with ease and exactness, was, on account of his many eminent services to, and great skill in the science, made Astronomer-Royal at Greenwich, on the decease of the Rev Mr Bliss, who had succeeded Dr Bradley in 1762 and having now a seat at the Board of Longitude, again pressed the publication of a Nautical Almanac, and backed the memorial, which he then delivered in, with the testimony of several gentlemen in the East India Company's service, who all concurred in declaring their opinions, that such a publication would be of the utmost utility to navigation. In consequence of these representations, the Commissioners applied to Parliament for authority to print and publish such an Almanac, which was granted by an act, made in the fifth year of the reign of his present Majesty, and in consequence thereof, proper persons were employed, and the first Almanac, of this kind, was computed and published for 1767, and they have been continued ever since, being published several years in advance for the benefit of those who make long
k voyages

voyages. The same act ordered a reward of 3000 l. to be given to the widow, or other representatives of the late Mr. Tobias Mayor, author of the Lunar Tables; and also 300 l. to the celebrated Mr. Euler, for what he had done in reducing Sir Isaac Newton's Theory of the Moon into neat analytical expressions, of which Mr. Mayer had availed himself, and from whence, by a very singular address of his own, had contrived to bring out the greatest quantities of the equations with ease and exactness.

But although matters were thus far happily advanced, it was not proposed to rest here. The Rev. Mr. Maskelyne having compared Mr. Mayer's last Lunar Tables with more observations, conceived hopes of bringing them to agree yet nearer with observation. Accordingly, with the approbation of the Board of Longitude, the equation tables were recomputed from numbers which he had reasons to think were nearer to the truth: he also directed that those tables should be continued to tenths of seconds, in order that fewer errors might happen from the omission of the fractional parts which arise in computation. These Tables have since been printed, and it is from them that the computations in the Nautical Almanac are now made. Moreover, two most excellent and accurate methods of reducing the observed distance of the moon from the sun, or a star, to the true, have been invented, and published in the Nautical Almanac for 1772. We are indebted for one of them to the Rev. Nevil Maskelyne, Astronomer-Royal; and for the other to Mr. George Witchell, Head Master of the Royal Academy at Portsmouth.

By these means, namely, the Nautical Almanac, and the several methods described above, of abridging the reduction of the apparent distance to the true, on account of parallax and refraction, the computations

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computations, attending this method of finding the Longitude, may be performed in 15 or 16 minutes by a very moderate computer; although formerly it could not have been done in less than three or four hours by the most skilful. But notwithstanding this, there yet remained many things to be done, and great difficulties to be got over. It had yet been practised by very few persons except such as were fond of Astronomical matters, and it could not be supposed that the generality of seamen or even any considerable part of them, should be so; and it is not an easy matter to induce people, of any denomination, to take the trouble of putting in practice the schemes of other persons, unless they are previously well assured of their success, which was by no means the case here, as every seaman, without exception, had been taught, from his infancy, to look on these things as impracticable. The Right Honourable the Lords Commissioners of the Admiralty took every step in their power to encourage the practice of this method in the Royal navy, but notwithstanding this, it was rather fortunate that another transit of Venus was to be observed in 1769, which, together with the voyages, lately undertaken for discoveries towards the South, have carried many persons abroad, who, either by inclination or situation, were interested in its success, and of course exerted themselves in the practice of it, and their example has, perhaps, contributed more towards bringing it into use, than every thing else put together.

As the practice of this method became more extensive, many little defects were discovered in the instruments, which had either escaped notice before, or not been much attended to. Among these, the most material were the want of accuracy in the divisions of the arch, and the errors arising from a want of parallelism in the

the two surfaces of the glass speculums. The former, Mr. Bird had shewn might be avoided by a skilful workman, and received 500 l. from the Board of Longitude for his excellency therein; and it is now completely removed by Mr. Ramsden, by his curious invention of a machine for dividing circular arches in Astronomical instruments; and for which he, also, received a very handsome gratuity from the said Board. This machine divides with so much certainty and exactness, that a quadrant, which had been divided by his apprentice therewith in the presence of several of the Commissioners of Longitude, and afterwards examined with the utmost rigour by Mr. Bird, was found not to err, in any part, fifteen seconds of a degree; for Mr. Bird himself assured me, that if it had, he was certain of discovering it. The same ingenious Gentleman has now under consideration a machine, of a similar kind, for dividing straight lines with equal accuracy, certainty, and expedition.

The latter, namely, the errors arising from a want of parallelism in the two surfaces of the glasses, has also been well provided against, at least in the index-speculum, by the Rev. Mr. Maskelyne, our present Astronomer-Royal; and which he has described in some very interesting remarks on the Hadley's Quadrant, published in the Nautical Almanack for 1774. This most excellent improvement is effected by leaving the upper part of the index-speculum unsilvered, and making that part of the glass rough on the back, and covering it with a sort of black paint; whereby all the rays are absorbed, which are not reflected from the first surface; and which, I will be bold to say, is one of the greatest improvements that have been made to this instrument since its invention. Mr. George Holroyd, mentioned above as one of the inventors of Hadley's Quadrant, had also a thought of this kind for remedying these

these errors, as appears from a Quadrant, which I have seen, that was made for him by Mr Dollond about the year 1765 I have also seen some contrivances, of the same Gentleman, for removing these errors, by making the speculums of a sort of opaque glass, and also of a composition somewhat resembling enamel, which might not, perhaps, be unworthy of a trial

In the same paper, Mr Miskelyne has given many excellent rules and directions concerning the size, height, and manner of silvering the glasses, the aperture of the telescope, and the means of adjusting it parallel to the plane of the quadrant, and he directed that two thick silver wires should be placed in the focus of the eye-glass of the telescope, dividing the diameter of the field of view into three equal parts, for that purpose at the same time shewing many other useful purposes that these wires might be applied to

I have observed before, that Mr Bird was the first who applied perpendicular bars to support, or strengthen the plane of this quadrant but the index being yet made of a broad, thin bar of brass, was liable to be bended, either towards, or from the plane of the quadrant, and of course the center-work was very much exposed to damage To prevent this, the same Gentleman, first of any person that I know of, applied a perpendicular bar to the face of the index, which it was then supposed would render these very delicate parts of the instrument perfectly secure But, such are the imperfections of the very best materials we are possessed of, that it was soon after discovered, the index of a Hadley's Quadrant, strengthened even in this manner, was yet liable to bend in the direction of its breadth, or, which is the same thing, in the direction of the plane

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of

of the angle to be measured ; and that merely with the small force which is necessary to overcome the friction of the center-work ! A thing so incredible, that the late Mr. Bird, who certainly knew the instability of metals as well as any man, could not be persuaded of its possibility, until Capt. Campbell, who first discovered this defect, shewed it to him, by releasing the clamp which fastens down the index, and pushing the index gently along with his thumb ; when, on suddenly removing it, Mr. Bird saw, with his own eyes, the index spring back again to a very sensible distance. And this error will be very considerable indeed, if by any mischance the screw, that binds in the center-pin, should have been screwed up a little too tight. To prevent this, Mr. Bird, in all the quadrants which he made towards the latter part of his time, provided a thin, circular plate of hammered brass, beaten hollow on one side ; and cut, by many straight slits, from the circumference almost to the centre, where it was perforated, of a sufficient width, to receive the binding-screw of the center-work freely. This plate being put over the center-pin, with the hollow part towards the back of the quadrant, and the binding-screw put through the perforation into its place, the plate will then act as a spring against the back of the quadrant, and by its yielding prevent the center-work from being drawn too tight by the screw, and yet hold it with sufficient force to prevent any shake in it. But as there are many quadrants, which are not made in this manner, and as it is possible this apparatus may not always answer the purpose intended, so completely as might be wished for, I would advise every observer to move the index of his quadrant different ways between the observations ; that is, to set the objects open, and make them overlap, alternately. By these means they are brought into contact, by moving the index different ways ; and

on

on that account, the errors arising from this cause will be alternately negative and affirmative, and of course, if an equal number be taken both ways, will nearly destroy one another. This method will also have a tendency to correct any errors, which might otherwise arise from a faulty habit, that the observer may have contracted, in forming the contact of the two objects; and is what I always used without ever finding any bad consequence arising from it, but that of making the observations look a little irregular, which will be more or less according to the joint quantity of these two errors.

By such steps have the Instruments, as well as the practice of Nautical Astronomy, arrived to their present degree of perfection, and it fully appears from the preceding Narrative, how great a part is owing to the rewards held forth, and the generous encouragement given, by the Board of Longitude, to ingenious men of all denominations, for inventions and improvements, that in any way conduce to the advancement of Astronomy and Navigation, and also of what vast utility that institution has been of to these flourishing and opulent kingdoms.

As I have spoken rather warmly in favour of the method of finding the longitude by observations of the Moon's distance from the Sun and Fixed Stars, it may perhaps be expected that I should deliver my opinion concerning the accuracy wherewith they can be made, and what may be expected from the instrument of which I have said so much. It must be owned, there is yet something in the constitution of this Quadrant very disagreeable, and not easily to be accounted for. Sometimes, for many months together, the longitudes deduced from observations made about the same
time

time with my two Sextants, would not differ more than 10 or 15 miles, and very seldom so much; after which the longitudes, so deduced, would begin to differ, and that difference would gradually increase, sometimes to more than a degree and an half: In a little time it would again decrease, and soon after the observations would agree as well as ever. It will readily be supposed, that no means were left untried by me to discover the cause of this strange aberration; but all my endeavours were ineffectual; and I mention the circumstance to induce some person, more skilful in mechanics, to attempt it.

With respect to the exactness that these observations may be made with, I shall beg leave to relate two plain matters of fact, which will shew what can be done in this respect, better than a thousand opinions. I reduced ten observations, all taken within the space of half a lunation before our arrival at the Cape of Good Hope, to that place, by means of Mr. Kendall's Watch; and also as many taken after leaving it, by the same means: the result of the former gave the longitude of the Cape Town $18^{\circ} 16' E.$, and of the latter $18^{\circ} 23' \frac{1}{2} E.$ Their mean is $18^{\circ} 16' 50'' E.$; differing $6' 25''$ from its true longitude, as determined by Messrs. Mason and Dixon. Again, the mean of four lunar observations, taken immediately before our arrival at St. Helena, gave its longitude $5^{\circ} 30' \frac{1}{2} W.$, when reduced thither by Mr. Kendall's Watch: four, taken immediately after leaving it, and reduced to that place in the same manner, gave its longitude $6^{\circ} 20' W.$ Their mean is $5^{\circ} 55' \frac{1}{2} W.$, which differs but $6' 6''$ from its true longitude, as found by the Rev. Mr. Maskelyne, by a great number of astronomical observations made on shore. I therefore conclude, that, with very little trouble, the longitude of a ship, at sea, may generally be had by this method, within

— about

about the one-sixth part of a degree, or at most, the one-fifth
—I shall now proceed to describe the rest of the instruments made
use of in this expedition

Of the Azimuth Compasses

BESIDES that of Mr Adams's making, which belonged to the Board of Longitude, and was of the late Dr Knight's construction, we had two others, belonging to the ship. One of these also was of Dr Knight's construction, and made by the same artist, and the other by Mr Gregory, with some alterations of his own, consisting chiefly in the size of the instrument, the weight and strength of its parts, and their manner of suspension, which was on friction wheels. Every one of these, I conceive, were conducive either to lessen its motion, or render it more regular, and of less effect. Indeed I must observe, that Dr Knight's Compasses, as they are now made, are very defective in these particulars, seeing that the least motion of the ship throws them into disorder, and they are not readily made steady again, which renders them very troublesome to observe with, and perhaps not quite so accurate as they might otherwise be.

I cannot pass this article over without making a remark or two on the irregularities which we found in the Observations, made with these instruments. In the Channel of England, the extremes of the observed variations were from $19^{\circ}\frac{1}{4}$ to 25° and all the way from England to the Cape of Good Hope, I frequently observed differences nearly as great, without being able, any way, to account for them, the difference in situation being by no means sufficient. These irregularities continued after leaving the Cape, which, at length, put me on examining into the circumstances under which

they were made In this examination it soon appeared, that when most of those observations were made, wherein the greatest West variations had happened, the ship's head was North and Easterly; and that when those, where it was least, had been observed, it was South and Westerly I mentioned this to Captain Cook, and some of the Officers, who did not at first seem to think much of it, but as opportunities happened, some observations were made under those circumstances, and very much contributed to confirm my suspicions, and throughout the whole voyage I had great reasons to believe, that variations observed with a ship's head in different positions, and even in different parts of her, will differ very materially from one another, and much more will variations, observed on board different ships, which I now find fully verified, on comparing those which were made on board the Adventure with my own, made about the same time and the inquisitive reader will find some very singular instances of these matters in the course of the following Observations — The twelfth article does not require any account here

Of the Dipping Needles

THIS Instrument was made by Mr Nairne, agreeable to a plan of the Rev Mr Mitchell, Fellow of the Royal Society, wherein the Needle may be balanced at any time, pretty exactly but not without much time and trouble This is done by means of four little balls, moving on two small wires, one of which is supposed to lie in a plane, passing through the axis of the Needle and its two poles, and the other in a plane at right angles thereto By moving the balls of the latter, the common center of gravity of the balls and Needle, is brought into the plane which passes through

through the poles and axis of the Needle; and then, by moving the two former, into the axis itself

The principal defects in this construction are, the difficulty in placing the wire, which carries the two last mentioned balls, in the proper plane; and the total impossibility of knowing, certainly, when it is so. Moreover, it is very possible, and undoubtedly often happens, that the axis of the Needle, and its two poles, do not lie in the same plane, in which case, another difficulty will arise in adjusting the Needle to great accuracy. It would certainly, I think, contribute towards removing these objections, if the breadth of the Needle was placed in the direction of its axis of rotation, both in this instrument, and also in the Azimuth Compass. but I speak this with submission to the opinions of better judges

Of the Barometers and Thermometers

THE two portable Barometers differed in no respect from common ones of that kind but the construction of the Marine Barometer is curious, and deserves to be described. It was of that sort which we generally call Cistern Barometers. The cistern was a cylindric box of wood, with two circular holes in its top, one of near half an inch, and the other of near an inch diameter. Into the former of these, the tube is fitted so tight as not to admit the mercury beside it. The larger perforation is covered with a very fine piece of woollen cloth, which Mr Nairne found had the property of admitting air through its pores, but not mercury. The tube was straight, and its bore rather small for something more than two feet, but above that, it was enlarged to the common size. The smallness of the tube, below, prevented the mercury from ascending so fast as it would otherwise

otherwise have done by the motion of the ship, and the width of the tube, above, prevented what did rise from having so sensible an effect as it would otherwise have had, on the motion of the mercury in that part of the tube. This Barometer was suspended on a common gimbal, about half-way up. I soon found that the motion of the ship had a very considerable effect on this instrument; and it seemed to me, that the motion of a Barometer, thus suspended, had a tendency to make the mercury stand somewhat higher than it would otherwise have done; and therefore the mean of the vibrations of the mercury, as put down in the following pages, will generally be greater than would be shewn by a barometer at rest. Mr. Nairne tells me, that he has since found by experiment, that a Barometer of this sort may be suspended, at such a height above the basin, that its motion will have a tendency to make its mean height less than it would be in a Barometer at rest; and from thence has been enabled to determine the point where it may be suspended, so that the mercury will neither have a tendency to ascend or descend; and of course in a barometer, thus suspended, the mercury will be perfectly at rest.

The Thermometers had nothing particular in them, farther than what is remarked at the end of the Meteorological Observations; but it would not be amiss if Thermometers, which are intended for expeditions of this sort, had a more extensive scale. The scale of those which I had extended from about 0 to 120.—The Theodolite, and Gunter's Chain, are too well known to need describing here.

The Wind gage has already been very fully described by its inventor, Dr. Lind, in the Philosophical Transactions, vol. lxxv. p. 353.
for

for the year 1775. Such an instrument would undoubtedly be very useful, if it could be made with a scale somewhat more extensive than that I made use of. In it, the water never rose more than nine tenths of an inch in the strongest gulls, and would then vibrate from that point to nothing.

The apparatus for trying the heat of the sea water at different depths, consisted of a square wooden tube, of about 18 inches long, and three inches square externally. It was fitted with a valve at the bottom, which opened inward, and another at its top, that opened outward, and had a contrivance for suspending the Thermometer exactly in the middle of it. When it was used, it was fastened to the deep-sea line, just above the lead, so that all the way as it descended the water had a free passage through it, by means of the valves, which were then both open, but the instant it began to be drawn up, both the valves closed by the pressure of the water, and of course the Thermometer was brought up in a body of water, of the same temperature with that it was let down to.

I come now to speak of the Time-keepers, three of which were made by Mr John Arnold, and the fourth by Mr Isaac Kendall, on the principles of that late most excellent artist, Mr John Harrison. I have nothing to say concerning the principles on which they were constructed: these of the latter are now well known, and I am not acquainted with those of the former. The merits of each will be best seen from the observations themselves, and I have therefore no need to add any thing on this head. I wished to have given a short history of what had been done, this way, towards finding the longitude at sea, but, on examination, can find no certain accounts of what was done by the respective persons who have

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turned

turned their thoughts to this subject; and a bare recital of their names would be neither useful nor entertaining. I have therefore only to add, and I am certain it will be confirmed by every sea-faring Person who has experienced it, that a good machine of this kind is an inestimable companion at sea.

All the observations which were made on shore are put down literally as they were taken, that is, in the very numbers that were read off, and the times shewn by the clock: and, to avoid any errors that might happen in transcribing, the proof-sheets were all read by the original books. In delivering the observations which were made at sea, it was judged sufficient to give the means only, as the whole, in their original form, would have been too voluminous, and could answer no useful purpose, which will not now be equally fulfilled. Every mean was taken by two persons, separately, and carefully compared, and corrected, where necessary, by myself; so that, I hope, very few errors have crept in here. I have annexed the name of the observer to all those observations which were not made by myself, and taken care to specify such remarks as were made by him at the time of making them. The deductions from Mr. Bayly's observations were in general made by himself; and it is particularly mentioned where they are done by me, that he may not be blamed for errors which are not his own.

There are two or three characters made use of in this work, which it will be proper to explain, although they are now generally known to Astronomers.

: Signifies that the number, after which it stands, is, on some account or other, a little doubtful.

:: Placed

Placed in like manner, means very doubtful

After some few of Mr Bayly's observations, taken on shore, the characters + or — occur the former means that one fourth of a second must be added to, and the latter, that one fourth of a second must be subtracted from, the number against which it stands

Every sheet has been read over until no errors could be found in it, before it went to the press, and therefore, I hope, few can have escaped me some, no doubt, there will be; but for which, every person, who knows the difficulty of compiling and correcting a work of this nature, and of such an extent, will, I am persuaded, make candid allowance, if his good-nature be not too far trespassed on

I cannot conclude, without observing that I have once, in the course of this work stepped out of my province, and taken a liberty which I would wish not to be censured for I had been at some pains to determine the situations of a group of small islands, to which I cannot find that any name has been assigned by Capt Cook I have therefore ventured to call them by the name of a person to whom I owe very much indeed, one who took me by the hand when I was friendless, and never forsook me when I had occasion for his help, and who, I hope, will not be offended at this public acknowledgment of his favours

W W A L E S

ASTRONOMICAL OBSERVATIONS,

M A D E A T

Different Places on Shore

B

ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Drake's Island, Continued.

1772.	Times by the Clock of equal Altitudes.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	H	H	H	o	H	
July 6.	56 36 $\frac{1}{2}$	11 53 38	—	61 50 o		☉'s L. L.
	59 53	11 57 o	54 2 $\frac{1}{2}$			☉'s U. L.
	9 1 $\frac{1}{2}$	12 —	—	63 48 o		☉'s L. L.
	12 20 $\frac{1}{2}$	12 9 24 $\frac{1}{2}$	—			☉'s U. L.
	37 46	12 34 46 $\frac{1}{2}$	31 47	68 20 o		☉'s L. L.
		12 38 10	35 9 $\frac{1}{2}$			☉'s U. L.
— 8.	At	8 12 9	No. 2 showed	1 h 22" o		☉'s U. L.
	41 35	2 44 31	47 28	58 30 o		☉'s L. L.
	44 55	2 47 53	50 51			☉'s U. L.
		3 5 59	8 57 $\frac{1}{2}$	55 6 o		☉'s L. L.
	6 24	3 9 21 $\frac{1}{2}$	—			☉'s U. L.
— 9.					7 15 15,9	Clock 1' 23" after Syderial time.
	23 58	11 20 58	—	55 6 o		☉'s L. L.
		11 24 22 $\frac{1}{2}$	21 24 $\frac{1}{2}$			☉'s U. L.
	45 22	11 42 24 $\frac{1}{2}$	39 29	58 30 o		☉'s L. L.
	48 43 $\frac{1}{2}$	11 45 46 $\frac{1}{2}$	42 51			☉'s U. L.

Observations for the Latitude of the Place, by Mr. Bayley.

The Clock's Rate of going.

1772.	Zenith Distance.	Latitude.	Barometer.	☉	Phenomena.	1772.	Clock C. to time Syderial Time.	Clock gain on Syderial time.
July 1.	27 31 36	50 21 20	30,27	77	☉'s L. L.	July 1.	1 17,4	22,9
— 2.	27 36 16 $\frac{1}{2}$	50 21 30 $\frac{1}{2}$	30,20	76	Ditto.	— 2.	0 54,5	20,7
— 3.	27 41 16 $\frac{1}{2}$	50 21 31	30,23	63	Ditto.	— 3.	0 33,8	19,95
— 7.	42 3 33	50 21 29	30,11	60	☉ Aquilæ.		After	
	37 36 10	50 21 26 $\frac{1}{2}$	30,11	60	☉ Ophiuchi.	— 5.	0 6,1	20,9
— 9.	28 19 8	50 21 35	30,00	76	☉'s L. L.	— 6.	0 27,0	18,67
						— 9.	1 23,0	

The mean is 50 21 28 $\frac{1}{2}$ N. Latitude.

Mean Rate of losing 20,625

Observations at Drake's Island, Continued

Observations of the Sun, Moon, and Stars, made with the Transit Instrument placed nearly in the Meridian

1772	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks
	"	"	H	"	"	
8 July 7	52 54 ¹ 22 17 11 58 37 34	53 36 ¹ 22 59 ¹ 12 38 ¹ 38 15 ¹	12 54 18 ¹ 17 23 43 19 13 21 19 38 58 ¹	54 54 24 25 14 3 39 41	55 44 ¹ 25 8 14 44 40 22 ¹	☉'s First Limb α Ophiuchi δ Aquilæ α Aquilæ

It appears from the observations of α Ophiuchi and α Aquilæ, that the instrument was west of the true meridian 3 37; that is, it cut the Meridian in the Zenith under that angle moved a little to the eastward

8 — 8	49 8 2 41 ¹ 30 32 ¹	49 51 3 25 31 14 13 34	13 50 35 ¹ 14 4 9 ¹ 15 31 55 ¹ 16 14 21 ¹ 17 23 12	51 19 ¹ 4 54 ¹ 32 38 ¹ 15 8 ¹	52 14 5 37 ¹ 33 19	☉'s First Limb Arcturus α Serpentis Antares α Ophiuchi
14 — 9	12 33 ¹ 14 49 ¹	13 18 ¹ 15 35 ¹	7 14 3 ¹ 16 21	17 6 17 51		☉'s First Limb ☉'s Second Limb

By comparing these observations of the Sun's Transit with the equal altitudes, it appears that the vertical, in which the instrument moved, after it had been altered on the 7th, made an angle with the true Meridian of 1 46"; the southern semi circle of that vertical lying so much to the eastward. The two transits of α Ophiuchi, when compared together, make the arch of the Horizon intercepted between the two verticals in which it moved, before and after the alteration, 4 49"; and of course the angle, under which it cut the Meridian after the alteration was 1 12; but the transits of the three stars Arcturus, α Serpentis, and Antares, when compared with their apparent right ascensions, make the angle only 23 the mean of the three is 1 7" of a degree. It happened, very unfortunately, that no Observations, corresponding to these were made at Greenwich, nor by the late Dr Bradley in 1754, or 223 complete lunations before, namely, on June 27th and 28th but I have endeavoured to correct the Tables from two Observations, made by that excellent Astronomer June 24th and 29th, and by comparing the right ascensions of the Moon, deduced from the preceding Observations, with the Tables so corrected I make the Longitude of Drake's Island 4° 18 52 W of Greenwich. The Rev Mr Maskelyne, Astronomer Royal, by means of Martin's Map of Cornwall, and the situation of the Lizard Point, as given by Mr J Bradley's Observations, (See Preface to Nautical Almanack for 1771) makes the Longitude of Drake's Island 4° 13 23 W. If I take 4° 16¹/₂ W the mean of these two determinations, it may perhaps be nearer than either, as both are in some measure uncertain

Observations at Drakes Island, Continued

The Clock, by which the times were taken, was fixed up very firmly to an oak plank, 1 1/2 inches broad, and 2 1/2 thick, let three feet into the ground, and well braced on each side. It was marked C, which is necessary to be noted as some of the following Observations were taken by another which is marked B. The pendulum, all the time, vibrated 1" 50 each way from the perpendicular.

All the computations were made by Mr Bayley, except the times of apparent noon and rate of the Clock's going, which were recomputed by myself.

On Friday, July the 10th, in the evening, the three Time keepers, N° 1, 2, 3, made by Mr Arnold, were set agoing by himself nearly to mean time and I set that made by Mr Kendall, on Mr Harrison's principles agoing also. At 13 h 0 6' by the Clock, the watches N° 1 and 2 shewed each of them 5 h 45; from whence Mr Bayley computed that they were 12 too slow for mean time at this place. At 14 h 15 by the Clock, Mr Kendall's watch shewed 6 h 59 52", and at 14 h 28' Mr Arnold's watch, N° 3, shewed 7 h 12 39"; from whence I computed, that the former was too fast for mean time by 7 10ths of a second, and the latter too slow by 10 1/2" at the times of comparison. N° 1 and 2 were taken on board, the Adventure by Mr Bayley, and N° 3, together with that made by Mr Kendall, were carried by myself on board of the Resolution. The Rev Mr Maskelyne, Astronomer Royal, had previously found the rates of going of N° 1, 2, and 3, to be respectively gaining 4 5ths of a second; gaining 14", 15, and losing 14", 63; and that the rate of Mr Kendall's was 5 8ths of a second a day losing, all on mean time. Mr Bayley computed, from the preceding comparisons, that N° 2 got, while here only, 6, 057 a day.

Observations for the Variation of the Compass					Observations for the dip of the Needle's N ^o End			
1772	Time by the Clock	The Sun's Zenith Distance	Magnetic azimuth	Variation West	1772	Dip of the Needle's N ^o End Face of the Instrument		
	H	°	°	'		East	West	
24 July 9	Observed with a Compass made by Gregory					24 July 10		
	13 45 30	77 29 36	N 49 27 W	20 37	72 45		71 15	
	46 38	77 29 0	48 20	21 22	72 50		71 30	
	51 12	78 0 38	47 35	21 29	72 55		71 20	
	Observed with a Compass made by Adams						Means	
	13 54 48	78 35 0	N 46 00 W	22 21½	72 50		71 21½	
	56 49	78 50 0	45 45	22 18	Mean of the two			
	59 6	79 10 0	45 15	22 23	72 50		71 21½	
	The mean of all is 21 45½							
	By placing the Compass in the meridian, and turning the index to the meridian mark, the variation was found to be 21 13½							
The mean of both is 21 29½								

ASTRONOMICAL OBSERVATIONS

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Observations made at the British Consul's House, at Funchial, on the Island of Madeira

1772	Equal Altitudes Time by the Clock marked B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks				
	Lower Wire	Middle Wire	Upper Wire							
	" "	H "	" "							
4 July 30	19 17 21 50 32 24 34 57	4 21 22 23 58 $\frac{1}{2}$ 4 34 29 $\frac{1}{2}$ 4 37 5 $\frac{1}{2}$	26 4 36 35 39 11	59 40 0 56 40 0 56 40 0	8 42 33,28	O s U L O's L L O s U L O s L L	} Easterly			
2 — 31	49 58 $\frac{1}{2}$ 52 28 21 53 24 29 $\frac{3}{4}$	12 47 52 $\frac{1}{2}$ 12 50 24 $\frac{1}{2}$ 4 24 0 26 36	45 46 $\frac{1}{2}$ 48 19 $\frac{1}{2}$ 26 5 28 41 $\frac{1}{2}$			59 40 0 57 20 0 57 20 0		8 45 49,88	O's L L O's U L O s U L O s L L	} Westerly
1/2 Aug 1	33 1 35 37 55 50 58 22 6 59 $\frac{1}{2}$ 9 31	4 35 7 $\frac{1}{2}$ 37 44 12 53 46 56 19 13 4 55 7 26	37 14 39 51 51 43 54 13 $\frac{1}{2}$ 5 22						59 40 0	

Hence it appears that the Clock lost 36",6 a day on Syderial time

1772	Observed by Mr Bayley Time by the Clock marked C.	Zenith Distance	Time of passing the Meridian	Phenomena and Remarks
2 July 31	At 13 h 31 39 $\frac{1}{2}$ " by B, it was 13 h 31 0" by C At 22 h 24' 0", the Clock B shewed 22 h 24' 54"			
	31 48 $\frac{1}{2}$ 16 34 8 $\frac{1}{2}$ 36 29 }		19 36 32,8	* Aquilæ, Eastward
	41 18 $\frac{1}{2}$ 22 38 56 $\frac{1}{2}$ 36 35 }			* Aquilæ, Westward
	29 31 3 31 47 $\frac{1}{2}$ 34 4 $\frac{1}{2}$ }	70 21 0		O's U L
	32 5 $\frac{1}{2}$ 3 34 21 $\frac{1}{2}$ 36 36 $\frac{1}{2}$ }			O's L L
	43 2 3 45 17 $\frac{1}{2}$ 47 34 }	67 33 0		O's U L
	47 52 50 4 $\frac{1}{2}$ }			O's L L
	2 52 4 5 7 $\frac{1}{2}$ 7 23 $\frac{1}{2}$ }	63 25 0		O's U L
	5 25 $\frac{1}{2}$ 7 40 $\frac{1}{2}$ 9 53 $\frac{1}{2}$ }			O's L L

At 4 h. 58 55 $\frac{1}{2}$ " by C, it was 5 h. by B

ASTRONOMICAL OBSERVATIONS

Observations at Fonchial, Continued

1772	Equal Altitudes Time by the Clock C			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	H	H	H	H	
5 August 1	At 8 h 44' 49 ¹ / ₂ B shewed 8 h 46' 0"				8 44 40,2	
	23 42	13 21 27	19 13 ¹ / ₂	63 25 0		o's L L
	26 15	24 0	21 46			o's U L
	—	13 41 17	39 1 ¹ / ₂	67 33 0		o's L L
	46 1	43 46	41 35 ¹ / ₂			o's U L
	—	13 54 43	52 27 ¹ / ₂	70 21 0		o's L L
	—	57 17	—			o's U L

• Hence the Clock C seems to have lost at the rate of 1 15" a day on Syderial time

Whilst we were here, the Thermometer stood from 74° to 72¹/₂°

All the computations were made by myself

The Observations were made at the house of the British Consul, which is about 200 yards, nearly due east, from the place where the late Dr Thomas Heberden made his Observations

The Clocks stood on a brick floor, and were screwed fast to a large book case, full of books, and which was fastened in a very firm manner to the wall of the house

The pendulum of B vibrated 1° 40 on each side of the perpendicular, and that of C 1° 53

Comparisons of Mr Kendall's Watch with the Clock B			Comparisons of Mr Arnold's Watch (No 3) with the Clock B		
1772	Time by B		1772	Time by B	
	H	"		H	"
2 July 31	9 35 38	1 50 0	2 July 31	9 36 37 ¹ / ₂	1 35 0
	13 39 0	5 52 47		13 40 21	5 38 0
	4 44 18 ¹ / ₂	20 56 0		4 42 0	20 37 0
	8 28 50	12 40 0		8 26 39 ¹ / ₂	0 21 0
5 August 1	14 4 37	6 15 0	5 August 1	14 6 42	6 0 0
Comparisons of Mr Arnold's Watch (No 1) with the Clock C			Comparisons of Mr Arnold's Watch (No 2) with the Clock C		
1772	Time by C		1772	Time by C	
	H	"		H	"
2 July 31	9 33 13 ¹ / ₂	1 47 0	2 July 31	9 34 0 ¹ / ₂	2 42 0
	13 35 40	5 49 0		13 37 29	6 45 0
	8 33 46	0 45 0		8 35 39 ¹ / ₂	1 41 0

Observations at Fonchinal, Continued

If r be put for the Clock's gain on the Watch in any given time (a) shewn by the Clock, as for example, between any two times of comparison, v for the time shewn by the Clock, between the comparison and nearest apparent noon, and A for the time by the Watch when the comparison was made then I say that the time shewn by the Watch at the apparent noon, or time of the sun's centre being on the meridian, will be expressed by $A \pm v \mp \frac{vr}{u}$ the upper signs having place when the comparison is made before, and the lower ones when it is made after noon; but if the Watch goes faster than the Clock, it will be just the contrary and by making use of this formula, and computing from the above Observations, and comparisons of the Time keepers therewith, I find that the several rates of the three, made by Mr Arnold, and marked No 1, 2 and 3 were, gaining 2,31 gaining 55,89, and losing 56",9 on mean time in 24 h; and that the Watch made by Mr Kendall, on Mr Harrison's principles, was losing 1,77 on mean time in the same space

Observations at the Cape of Good Hope

1772	Equal Altitudes Time by Clock marked B			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		11		*	H	"
Nov 1	45 58 18 36	10 48 14 50 54'	53 10	{ 53 9 0		<div> <div> <div>O s U I</div> <div>O s I L</div> </div> <div> <div>{</div> <div>I afterly</div> </div> </div>
2	14 51 17 29	18 12 33 18 15 14	10 19'	{ 53 9 0	14 31 36,7	<div> <div> <div>O s I I</div> <div>O s U I</div> </div> <div> <div>{</div> <div>Westerly</div> </div> </div>
3	0 26 2 55 16 44	10 2 33 5 12 19 0 21 34	4 49 7 26 21 16 23 54	{ 63 24 0 60 0 0		<div> <div> <div>O s U L</div> <div>O s I I</div> <div>O s U I</div> <div>O s L L</div> </div> <div> <div>{</div> <div>I afterly</div> </div> </div>
4	57 36 11 27 20 15 22 55	18 52 42 18 55 21 19 9 9 19 11 47 10 22 33 25 10	50 27 53 4 6 54 9 32 27 24	{ 60 0 0 63 24 0 59 40 0	14 37 2,4	<div> <div> <div>O s I I</div> <div>O s U I</div> <div>O s L L</div> <div>O s U I</div> <div>O s L L</div> </div> <div> <div>{</div> <div>Westerly</div> <div>I exceed</div> <div>ing strong</div> <div>wind</div> <div>Lastly</div> </div> </div>
5	56 48 59 25	18 54 30	52 11 54 52	{ 59 40 0	14 39 42,6	<div> <div> <div>O s I I</div> <div>O s U I</div> </div> <div> <div>{</div> <div>Westerly</div> </div> </div>
6						

Observations at the Cape of Good Hope, Continued

1772	Equal Altitudes Time by the Clock marked B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
♀ Nov 6	5 1	10 7 19	9 35½	63 40 0		O s U I
	7 41	9 57½	12 13½			O s L L
	16 20	10 18 35	20 53			O s U L
	18 58	21 13½	23 30			O s L L } Easterly
♂ — 7	11 45	19 9 28½	7 12½	61 20 0	14 45 13,76	O s L L
	14 24½	12 8	9 50½			O s U L
	23 3	19 20 46	18 29½			O s L L
	25 41½	23 25	21 9½			O s U L } Westerly
	6 12	10 8 28½	10 44½	63 51 0		O s U L
	8 50	10 11 6	13 22½			O s L L
	23 37½	10 25 53½	28 9½			O s U L } Easterly
	26 15	10 28 32½				O s L L
○ — 8	10 2	19 7 45		60 15 0	14 48 0,71	O s L L
	12 38½	10 23½	8 7½			O s U L
	27 27½	19 25 11	22 55			O s L L } Westerly
	30 6½	27 49½	25 32½			O s U L
	41 14½	11 43 32	45 51½	44 40 0		O s U L
	43 54½	46 14	48 31½			O s L L
	52 45½	11 55 2½	57 23			O s U L } Easterly
	55 28½	57 47½	0 5			O s L L
♂ — 9	46 16½	17 43 58	41 39	42 20 0	14 50 46,45	O s L L
	48 59½	46 41	44 21			O s U L
	57 47½	17 55 29½	53 12			O s L L } Westerly
	0 28	58 11	55 52½			O s U L
	23 25½	10 25 40½	27 59½	61 10 0		O s U L
	26 3½	28 20½	30 37			O s L L } Easterly
♂ — 10	21 2½	19 19 7½	16 51½	61 10 0	14 53 36,82	O s L L
	24 2½	21 47	19 30½			O s U L } Westerly
♂ — 11	58 23½	10 0 41½	2 57	67 12 0		O s U L
	1 3	10 3 20½	5 36½			O s L L
	9 5½	10 11 22½	13 38			O s U L } Easterly
		10 14 2½				O s L L
♂ — 12		19 44 35½		65 0 0	14 59 11,36	O s L L
	49 33	47 16½	44 58½			O s U L
	57 35½	19 55 18½	53 1½			O s L L } Westerly
	0 16	57 59½	55 41½			O s U L

Observations at the Cape of Good Hope, continued

1772	Equal Altitudes Time by Clock B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
24 Nov 12	40 22	12 39 58½		35 0 0		O () } Easterly
2 — 13	23 52	17 24 16		35 0 0	15 2 2½	O 1 I } Westerly
	3 15	10 5 32½	7 50½	67 6 0		O 8 U I } Easterly
	5 55½	8 14½	10 29½	64 0 0		O 8 L L } Easterly
	18 23½	10 20 39	22 56	64 0 0		O 8 U I } Easterly
	21 2½	23 19½	25 35½	64 0 0		O 8 L L } Easterly
2 — 14	49 57	19 46 40½	44 24	64 0 0	15 4 52,7	O 8 L I } Westerly
	51 37	49 20½	47 3½	64 0 0		O 8 U L } Westerly
	4 5	20 1 48	59 31½	67 6 0		O 8 L L } Westerly
	6 45½	4 28½	2 11½	67 6 0		O 8 U L } Westerly

Observed times when the Sun's and Moon's Limbs, and fixed Stars transited the Meridian, together with the Comparisons of the Clocks with each other

1772	Time by the Clock marked C						
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire		
	"	"	H	"	"		
28 Nov 3	At 10 h 9 22 by B, it was 10 h 9 0 by C					O's First Limb } O's Second Limb } D's First Limb } α Pegasi }	
2 — 4	36 38½	37 20½	14 35 49 38 5½	36 34 38 49½	37 16½ 39 31		} W B
	At 14 h 41 0" by B, it was 14 h 40 35½ by C						
	At 19 h 1 26' by B, it was 19 h 1 0 by C						
	38 21½	39 3½	22 39 45½	40 29½	41 11	} W B	
		48 59	22 49 42½	50 25½			
	At 10 h 41 32½ by B, it was 10 h 41 0" by C						
24 — 5	At 14 h 50 35½ by B, it was 14 h 50 0" by C					D's First Limb } γ Pegasi } δ Andromeda } δ Andromeda }	
	23 31½	24 13	23 24 56½	25 39	26 20½		} W B
		55 30	23 56 13½	56 57½			
		2 39	0 3 27½	4 16½			
		20 38	0 21 27	22 15½		} W B	
	At 11 h 0' 0" by B, it was 10 h 59 11½ by C						
2 — 6	41 37½	42 21	14 40 49½	41 33½	42 16½		O's 1st I } cloudy } O's 2d L }
	At 14 h 52 0 by B, it was 14 h 51 9½ by C.						

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon and Stars over the Meridian Time by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H	"		
♀ Nov 6	45 50 $\frac{1}{2}$	46 31 $\frac{1}{2}$	21	47 56 $\frac{1}{2}$	48 36 $\frac{1}{2}$	α Aquarii
	45 17 $\frac{1}{2}$	45 59 $\frac{1}{2}$	22 46 43	47 26 $\frac{1}{2}$	—	γ Pegasi
	53 19	54 2 $\frac{1}{2}$	23 54 45 $\frac{1}{2}$	55 29 $\frac{1}{2}$	—	δ s 1 st Limb
	8 21	9 2 $\frac{1}{2}$	0 9 45 $\frac{1}{2}$	10 29	11 10 $\frac{1}{2}$	W B
	At 0 h 14 0 by B, it was 0 h 13 3 $\frac{1}{2}$ by C					α Arietis
	46 6 $\frac{1}{2}$	46 50 $\frac{1}{2}$	1 47 36 $\frac{1}{2}$	48 22 $\frac{1}{2}$	—	0 s First Limb
	At 10 h 26 1 $\frac{1}{2}$ by B, it was 10 h 25 0 by C					0 s Second Limb
♂ — 7	41 52 $\frac{1}{2}$	42 36	14 43 19 $\frac{1}{2}$	44 3 $\frac{1}{2}$	—	
	—	44 51	45 35	46 19 $\frac{1}{2}$	47 1 $\frac{1}{2}$	
	At 14 h 51 0 by B, it was 14 h 49 56" by C					
	At 19 h 27 7 $\frac{1}{2}$ by B it was 19 h 26 0" by C					
	44 19 $\frac{1}{2}$	45 1 $\frac{1}{2}$	21 45 43 $\frac{1}{2}$	46 26	47 7 $\frac{1}{2}$	α Aquarii
	47 1 $\frac{1}{2}$	47 48	23 48 35 $\frac{1}{2}$	49 23	50 9 $\frac{1}{2}$	α Andromeda
	—	52 31	23 53 14	53 53	—	γ Pegasi
	53 23	54 6	0 51 48	55 30 $\frac{1}{2}$	56 1 $\frac{1}{2}$	δ s 1 st Limb
	At 0 h 59 0 by B it was 0 h 57 47 by C					
	At 10 h 15 18 $\frac{1}{2}$ by B it was 10 h 14 0 by C					

This forenoon we examined and adjusted the line of collimation of the instrument, and at noon endeavoured to bring it into the plane of the Meridian, by keeping the Sun's first limb at the middle wire, until the Clock shewed the time at which it ought to pass it according to computation; but the screw which turns the instrument round in azimuth was too fine to keep pace with the Sun's diurnal motion. Mr Bayley then noted its transit at the following wires

○ Nov 8	—	—	14	46 26	47 8 $\frac{1}{2}$	0 s 1 st Limb
	46 30 $\frac{1}{2}$	47 13 $\frac{1}{2}$	14 47 57 $\frac{1}{2}$	48 42	—	0 s Last Limb
	At 19 h 17 24 $\frac{1}{2}$ by B, it was 19 h 16 0" by Clock C					W B
	At 12 h 11 32 $\frac{1}{2}$ by B, it was 12 h 10 0" by C					

Moved the Transit Instrument yet nearer to the Meridian and fixed up two Meridian marks, one at about a mile and a half, and the other about half a mile distant

♂ Nov 9	—	47 29 $\frac{1}{2}$	14 48 13 $\frac{1}{2}$	48 57 $\frac{1}{2}$	—	0 s First Limb
	—	49 45 $\frac{1}{2}$	50 30	51 14	—	0 s Second Limb
	At 14 h 54 0" by B, it was 14 h 52' 27" by C					
	At 18 h 1 34 $\frac{1}{2}$ by B it was 18 h. 0 0 by C					
	40 28	41 10 $\frac{1}{2}$	22 41 54	42 38 $\frac{1}{2}$	43 20	α Pegasi
	41 15	41 59 $\frac{1}{2}$	1 42 44 $\frac{1}{2}$	43 30 $\frac{1}{2}$	44 14 $\frac{1}{2}$	α Arietis
Cloudy	26 51 $\frac{1}{2}$	2 27 39 $\frac{1}{2}$	28 23 $\frac{1}{2}$	29 5 $\frac{1}{2}$	—	δ s 1 st Limb
	At 2 h 39 0" by B, it was 2 h 37 21 $\frac{1}{2}$ by C					
	At 10 h 18 42" by B, it was 10 h 17 0 by C					

ASTRONOMICAL OBSERVATIONS.

Observations at the Cape of Good Hope, Continued.

Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.						Phenomena and Remarks.
First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.		
"	"	H "	"	"		
1772.						
Nov. 14.		46 37 $\frac{3}{4}$	6 47 33 $\frac{1}{4}$	48 9 $\frac{1}{4}$		
	6 43 $\frac{1}{2}$	0 8 $\frac{1}{2}$	7 0 58 $\frac{1}{2}$	1 48 $\frac{1}{2}$		
		7 25 $\frac{1}{2}$	7 8 7 $\frac{1}{2}$		9 30 $\frac{3}{4}$	
		11 26 $\frac{1}{2}$	12 14 $\frac{1}{2}$	13 2 $\frac{1}{2}$		
	At 7 h. 18' 32 $\frac{1}{2}$ " by B, it was 7 h. 16' 0" by C.					
	At 10 h. 38' 34" by B, it was 10 h. 36' 0" by C.					
Nov. 15.	2 38 $\frac{1}{2}$	3 21 $\frac{1}{2}$	15 4 6 $\frac{1}{2}$	4 50 $\frac{1}{2}$		
		5 39 $\frac{1}{2}$	6 23 $\frac{1}{2}$	7 8 $\frac{1}{2}$	7 51 $\frac{1}{2}$	
	At 15 h. 13' 0" by B, it was 15 h. 10' 23 $\frac{1}{2}$ " by C.					
D's Second Limb. } W. B. Castor. Procyon. Pollux.						
O's First Limb. O's Second Limb.						

Observations for the Variation of the Compaſs.

1772.	Time by the Clock B.		The Sun's magnetic azimuth.	Variation West.		Variation West.	Variation West.
	H	"		"	"	"	"
Nov 13.	20	20 37	N. 79 55 W.	20	1	21 30	20 50
		22 56	80 0	20	13	21 0	20 30
		24 31	80 0	20	25	21 10	21 0
Nov 14.	20	30 30	81 10	19	53	21 15	20 40
		32 39	81 15	20	4 $\frac{1}{2}$	21 0	21 20
		33 20 $\frac{1}{2}$	81 40	19	45	21 20	21 10
		33 56	81 50	19	19 $\frac{1}{2}$	21 15	21 20
		34 58	82 5	19	29 $\frac{1}{2}$	20 30	21 5
		35 11 $\frac{1}{2}$	82 15	19	24	20 20	20 50
	20	39 29	82 35	19	37 $\frac{1}{2}$	20 40	20 40
		40 12	83 0	19	17	20 20	21 5
		41 2	81 5	21	18 $\frac{1}{2}$	20 25	20 50
		42 52	81 20	21	17 $\frac{1}{2}$	20 10	20 35
		43 44	83 40	19	4 $\frac{1}{2}$	20 57	20 55
		44 44	83 45	19	6 $\frac{1}{2}$	The variations contained in these two columns, were got by placing the compass in the meridian, and turning the index to the meridian mark.	
		45 35	83 45	19	13		
		46 22	81 15	21	50		

The mean of all the variations found from the time, is 19° 57' 35"; the mean of all those taken by the Meridian mark, is 20° 55' 4"; and the mean of both is 20° 26 $\frac{1}{2}$ West.

Observations at the Cape of Good Hope, Continued

Computations of the Rates at which the two Clocks went

1772		Time of appa rent Noon by Clock B	Syderial Time of apparent Noon	Clock B slow of Syderial Time	Clock B loses on Syderial Time	Clock C loses on B	Clock C loses on Syd time
		H	H	"	"	H	
Nov	2	14 31 36,7	14 32 41,4	1 4,7	1 14,8		
—	4	14 37 2,4	14 40 36,7	3 34,3	1 18,5	10,8	
—	5	14 39 42,8	14 44 35,6	4 52,8	1 14,6	{ 15,2 13,5	
—	7	14 45 13,8	14 52 35,7	7 21,9	1 14,4	17,4	
—	8	14 48 0,7	14 56 37,0	8 36,3	1 16,5	11,6	
—	9	14 50 46,4	15 0 39,2	9 52,8	1 12,6	9,3	
—	10	14 53 36,7	15 4 42,1	11 5,4	1 16,9	{ 9,3 10,7	
—	12	14 59 11,4	15 12 50,7	13 39,3	1 14,8	10 7	
—	13	15 2 2,1	15 16 56,2	14 54,1	1 15,8	10,7	
—	14	15 4 52,7	15 21 3,6	16 9,9			"
Mean Rate of the Clocks					1 15,43	11,92	1 27,35

Computations of the Rate at which Mr Arnold's Watch (N^o 1) went, by Mr Bayley

1772		Time by the Watch No. 1	Time by the Clock C	Clock C before Watch No. 1	Watch loses o th Clock between Compa rison	Interval of com parison	Watch loses o b Clock twenty four hours	Clock loses on Syd rial time	Watch loses on Syderial time	Watch loses on mean time
		H	H	H		H		"	"	"
Nov	4	22 6 0	14 48 0	16 42 0						
—	5	22 12 0	14 56 54	16 44 54	2 54	24 6	2 53,3	1 29,0	4 22,3	0 25,8
—	6	22 23 0	15 10 42	16 47 42	2 48	24 11	2 46,6	1 29,1	4 15,7	0 19,2
—	7	21 37 0	14 27 27½	16 50 27½	2 45½	23 14	2 50,9	1 29,1	4 20,0	0 23,5
—	8	21 39 0	14 32 11	16 53 11	2 43½	24 2	2 43,5	1 32,8	4 16,3	0 19,8
—	9	22 6 0	15 2 4½	16 56 4½	2 53½	24 27	2 50,3	1 25,8	4 16 1	0 19,6
—	10	22 7 0	15 5 55	16 58 55	2 50½	24 1	2 50,5	1 25,8	4 16 3	0 19,8
—	11	22 2 0	15 3 45½	17 1 45½	2 50½	23 55	2 51,1	1 26,1	4 17,2	0 20,7
—	12	22 3 0	15 7 37	17 4 37	2 51½	24 1	2 51,5	1 26,1	4 17,6	0 21,1
—	13	22 22 0	15 29 29	17 7 29	2 52	24 19	2 49,6	1 25,9	4 15 5	0 19 0
—	14	22 4 0	15 14 14	17 10 14	2 45	23 42	2 47,2	1 25,9	4 13,1	0 16,6
—	15	22 4 0	15 27 2½	17 13 2½	2 48½	24 0	2 48,5	1 25,9	4 14,4	0 17,9
Mean Rate of the Watch (N ^o 1)										0 20,3

Mr Bayley farther computes, that at the time when this Watch was compared with the Clock, on November 4, it was too slow for mean time, at the Cape, by 1 h 49 9' 1

Observations at the Cape of Good Hope, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1772.	Time of apparent Noon by the Clock.			Time by the Clock when the Watch was compared.			Time from Noon by the Clock.			Clock's gain on Watch.			Time from Noon by the Watch.			Time by the Watch when com- pared.			Time of ap- parent Noon by the Watch.			Mean Time of apparent Noon.			Watch flow of mean Time.			Watch gains on mean Time.		
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S
Nov. 2.	14	31	36,7	14	41	55,1	10	18,55	1	64	10	16,91	19	59	38	19	49	21,09	23	43	47,0	3	54	25,91	1	6,0				
3.	14	34	29,5	15	27	12	52	52,5	8	39	52	44,11	20	41	0	19	48	15,89	23	43	47,8	3	55	31,91	1	7,51				
4.	14	37	2,4	14	47	54,3	10	51,85	1	73	10	50,12	19	58	0	19	47	9,88	23	43	49,3	3	56	39,42	1	16,06				
5.	14	39	42,8	14	58	55,1	19	7,45	3	67	19	3,78	10	5	0	19	45	56,22	23	43	51,7	3	57	55,48	1	44,05				
6.	14	42	28,3	15	15	18,4	32	50,2	5	57	32	44,63	20	17	0	19	44	15,37	23	43	54,6	3	59	39,53	1	42,22				
7.	14	45	13,8	14	30	33,2	14	39,5	2	45	14	37,05	19	28	0	19	42	37,05	23	43	58,8	4	1	21,75	1	41,29				
8.	14	48	0,7	14	32	57	15	3,7	3	14	15	0,56	19	26	0	19	41	0,56	23	44	3,6	4	3	3,04	1	41,15				
9.	14	50	46,4	15	3	23,1	12	36,85	1	96	12	34,89	19	52	0	19	39	25,11	23	44	9,3	4	4	44,19	1	33,20				
10.	14	53	36,7	15	7	40,1	14	3,8	2	21	14	1,59	19	52	0	19	37	58,41	23	44	15,8	4	6	17,39	1	32,62				
11.	14	56	24,0	15	5	52	9	28,0	1	19	9	26,81	19	46	0	19	36	33,19	23	44	23,2	4	7	50,01	1	35,24				
12.	14	59	11,4	15	7	6,4	7	54,85	1	0	7	53,85	19	43	0	19	35	6,15	23	44	31,4	4	9	25,25	1	30,17				
13.	15	2	2,1	15	31	22	29	19,88	4	96	29	14,92	20	3	0	19	33	45,08	23	44	40,5	4	10	55,42	1	38,19				
14.	15	4	52,7	15	17	37,2	12	45,5	2	29	12	43,21	19	45	0	19	32	16,79	23	44	50,4	4	12	33,61	1	30,642				
Mean Rate of the Watch's losing																							1 30,642							

Computations of the Rate that Mr. Kendall's Watch went at.

1772.	Time of apparent Noon by the Clock.			Time by the Clock when the Watch was compared.			Time from Noon by the Clock.			Clock's gain on Watch.			Time from Noon by the Watch.			Time by the Watch when compared.			Time of apparent Noon by the Watch.			Mean Time of apparent Noon.			Watch flow of mean Time.			Watch gains on mean Time.		
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S
Nov. 2.	14	31	36,7	14	41	55,1	10	18,8	0	1,1	10	17,7	22	23	0	22	12	42,3	23	43	47,0	1	31	4,7	+	0,6				
3.	14	34	19,5	15	29	42	55	22,5	0	6,2	55	16,3	23	8	0	22	12	43,7	23	43	47,8	1	31	4,1	-	1,4				
4.	14	37	2,4	14	45	19,2	8	17,1	0	0,9	8	16,2	22	21	0	22	12	43,8	23	43	49,3	1	31	5,5	-	0,5				
5.	14	39	42,8	14	56	59	17	16,2	0	1,9	17	14,3	22	30	0	22	12	45,7	23	43	51,7	1	31	6,0	+	2,9				
6.	14	42	28,3	15	13	40	31	11,7	0	3,5	31	8,2	22	4,1	0	22	12	51,8	23	43	54,9	1	31	3,1	+	1,7				
7.	14	45	13,8	14	28	14,2	16	59,3	0	1,9	16	57,4	21	56	0	22	12	57,4	23	43	58,8	1	31	1,4	+	1,5				
8.	14	48	0,7	14	34	55,1	13	5,2	0	1,5	13	3,7	22	0	0	22	13	3,7	23	44	3,6	1	30	59,9	+	0,1				
9.	14	50	46,4	15	3	38,2	12	52,1	0	1,4	12	50,7	22	26	0	22	13	9,3	23	44	9,3	1	31	0,0	+	4,0				
10.	14	53	36,7	15	6	18,2	12	41,6	0	1,4	12	40,2	22	26	0	22	13	19,8	23	44	15,8	1	30	56,0	+	2,3				
11.	14	56	24,0	15	7	55,2	11	31,8	0	1,3	11	30,5	22	25	0	22	13	29,5	23	44	23,2	1	30	53,7	+	0,0				
12.	14	59	11,4	15	6	34,1	7	23,1	0	0,8	7	22,3	22	21	0	22	13	37,7	23	44	31,4	1	30	53,7	+	2,6				
13.	15	2	2,1	15	33	16,2	31	14,1	0	3,5	31	10,6	22	45	0	22	13	49,4	23	44	40,5	1	30	51,1	+	0,8				
14.	15	4	52,7	15	16	54	12	1,3	0	1,3	12	0,0	22	26	0	22	14	0,0	23	44	50,3	1	30	50,3	+					
Mean Rate of the Watch's gaining																							1,2							

Observations at the Cape of Good Hope, Continued

Comparisons of the Transit Instrument with equal Altitudes

1772		Time of the O's Transit by the Clock C	Clock B before C	Time of the O's Transit by the Clock B	Time of appa- rent Noon by the equal Al- titudes	O tran- sits after Noon	Horizon- tal Error of the In- strument
		H ' "	" "	H " "	H ' "	" "	" "
8 Nov	4	14 36 57,30	0 24,46	14 37 21,76	14 37 2,4	19,36	14 51
h —	7	14 44 27,31	1 3,96	14 45 31,27	14 45 13,8	1,547	14 0 $\frac{1}{4}$
		Altered the Instrument					
3 —	9	14 49 21,54	1 33,00	14 50 54,51	14 50 46,4	8 14	6 43
4 —	12	14 57 16,95	2 1,94	14 59 18,89	14 59 11,4	7,49	6 28
2 —	13	14 59 55,09	2 12,7	15 2 7,79	15 2 2,1	5,69	4 59
h —	14	15 2 35,85	2 23,5	15 4 59,35	15 4 52,7	6,65	5 55

Of the Dip of the Magnetic Needle

The dipping Needle which we took on shore at this place was so much out of balance, and so difficult to get in again, that, notwithstanding we both of us spent all the leisure time we had from other observations, we did not get it perfectly adjusted before we went away; and of course were not able to get any observations of that kind at this time

Observations made at Dusky Bay, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
○ April 4.	59 58 4 3	22 22	6 31½	65 20 0		○'s U. L. } Easterly. ○'s L. L. }
— 5.		4 1 18			I 4 36,4	○'s L. L. } Westerly. ○'s U. L. }
	1 10	22 4 25 8 26	7 38½	66 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 6.					I 8 20,0	○'s L. L. } Westerly. ○'s U. L. }
— 10.	10 51 14 55	4 7 34 11 39½	8 26	66 0 0		○'s U. L. } Easterly. ○'s L. L. }
	45 47½ 49 26	21 48 45½ 52 30	51 46½	72 20 0		○'s U. L. } Easterly. ○'s L. L. }
	4 21 8 14	22 7 30 11 24		69 40 0		○'s U. L. } Easterly. ○'s L. L. }
	21 25 25 29	22 24 45 28 49	28 5 32 7	67 20 0		○'s U. L. } Easterly. ○'s L. L. }
— 11.					I 26 50,9	○'s L. L. } Westerly. ○'s U. L. }
	27 38 31 41	4 24 13 28 22	20 58 25 4	67 20 0		○'s L. L. } Westerly. ○'s U. L. }
	44 53 48 44	4 41 46 45 37½		69 40 0		○'s L. L. } Easterly. ○'s U. L. }
	3 36 7 19	5 0 35 4 19		72 20 0		○'s L. L. } Easterly. ○'s U. L. }
— 1	14 38 19 16	23 18 26 23 9	22 15 27 4	65 20 0		○'s U. L. } Easterly. ○'s L. L. }
— 17.		4	10 58 16 47	65 20 0	I 49 17,5	○'s L. L. } Westerly. ○'s U. L. }
	35 52½ 39 55½	22 39 12 43 11½	42 25½ 46 27	71 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 18.					I 53 4,75	○'s L. L. } Westerly. ○'s U. L. }
	5 37½ 9 40	5 2 23½ 6 24	59 9 3 11	71 0 0		○'s L. L. } Easterly. ○'s U. L. }
The Clock stopped a few seconds in winding up.						
	9 16½	23 8 28 12 53		68 0 0		○'s U. L. } Easterly. ○'s L. L. }
— 19.		4 39 57		68 0 0	I 56 41,9	○'s L. L. } Westerly. ○'s U. L. }
	37 43 41 41	22 40 57½ 44 55½	40 55 44 10 48 11	72 20 0		○'s U. L. } Easterly. ○'s L. L. }

Observations at Dusky Bay, Continued

1773	Equal Altitudes Times by Clock B			Zenith Distance	Time of ap parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	"	H	"	"	"	
▷ April 19	11 7½	23 14 41	18 19	68 0 0	2 0 29,65	○'s U L } Easterly
♂ — 20	15 31	19 12	22 50½			○'s L L }
	44 53	4 41 14	37 36½	68 0 0		○'s L L } Westerly
	49 20	45 45	42 9			○'s U L }
	18 44	5 15 29		72 20 0		○'s L L }
	22 39	19 28	16 13			○'s U L }
	38 45½	22 41 57	45 8	73 0 0		○'s L L } Easterly
	42 40	45 54	49 9			○'s U L }
	16 16	23 15 27	19 1½	68 40 0	2 4 1,8	○'s L L }
♂ — 21		19 54	23 32			○'s U L }
	51 44½	4 48 7½	44 29½	68 40 0		○'s L L } Westerly
		52 35	49 0			○'s U L }
		5 22 8½	18 51½	73 0 0		○'s L L }
	29 16	26 4½	22 54			○'s U L }
♂ — 24	26 15½	10 30 28½	34 47½	66 0 0	12 44 41,7	○'s L L } Easterly
○ — 25	31 27	35 48½	40 14½			By Mr Kendall's Watch
	57 24	14 53 1½	48 36½	66 0 0		○'s L L } Westerly
	2 36	58 21	54 4½			○'s U L }

In these last Observations the time was noted by the Watch made by Mr Kendall, the Clock having been taken down on the 22d

1773	Meridian Zenith Distances of the Sun and Stars					Barom	Thermom	Phenomena and Remarks		
	I lower Arch		P. upper Arch							
	0		G	S	V				"	
▷ April 5	51	37 10	55	0	8	+	11	29 96	54	○ s U L
♂ — 6	51	33 34	54	3	31	+	24	30 35	51	Procyon
○ — 11	54	24 28	58	0	4	+	20	30 13	54	○ s L L
	51	33 10	54	3	31	+	21	30 18	50	Procyon
	0	52 54	0	3	24	—	24	30 19	50	γ Navis plane of the Quadrant West
	23	0 0	24	2	5	+	6	30 18	48½	β Navis above the Pole
♂ — 15	55	50 56	59	2	9	+	26	29 99	53	○'s L L
♀ — 16	55	40 20	59	1	17	+	22	30 4	58	○ s U L
	51	33 14	54	3	31	+	18	29 98	49	Procyon
	0	53 4	0	3	26		0	29 97	48½	γ Navis
	8	5 16	8	2	17	+	20	29 96	48	δ — } Plane of the Quadrant East
	22	59 38						29 96	47½	β — above the Pole
♂ — 18	56	22 14	60	0	17	+	20	29 95	58½	○ s U L

Observations at Dusky Bay, Continued.

1773.	Meridian Zenith Distances of the Sun and Stars.							Barom.	Thermom.	Phenomena and Remarks.	
	h	m	s	G	S	V.	"				
☉ April 18.	51	33	28	55	0	0	+	10	29 90	52	Procyon.
	0	53	26	0	3	24	—	10	29 90	51½	γ Navis }
	8	5	50	8	2	16	—	9	29 90	50¾	δ — } Plane of the Quadrant West.
	22	59	38	24	2	4	+	4	29 90	50½	β — above the Pole.
☿ — 21.	8	5	40	8	2	15		0	29 65	46	δ Navis plane of the Quadrant West.
	22	59	18	24	2	3	+	20	29 65	45	β — above the Pole.
♂ — 22.	58	16	41	62	0	21	+	19	29 67	53	☉'s L. L.
	0	52	45	0	3	25		0	29 66	45	γ Navis }
	8	5	21	8	2	17	+	22	29 66	45	δ — } Plane of the Quadrant East.

* In making the above Observations, I estimated the seconds on both arches by the eye, on account of a defect in the tangent screw of the astronomical quadrant, or the apparatus which carries it, I could not discover which; the screw being liable, sometimes, to turn half way round without altering the vernier.

N. B. This is the same quadrant which Captain Cook and Mr. Green used at Otaheite, and possibly got injured when in the hands of the natives, if this was the case, it is highly probable that the disagreement in their meridian zenith distances (See p. 406, Philosophical Transactions, vol. LXI.) arose from this cause.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock.	Distance @ and D's Limbs.	Zenith Distance D's L. L.	Double Alt. of O's L. L.	Barom.	Thermom.	Longitude East.
	H						
8 April 14.		+ 1 35½	+ 12	Corrections of the Quadrants.			
	0 7 42	78 1 45	54 10 0	}	29.99	52	166 27 45
	9 37	78 0 45	54 35 45				
	13 10	77 57 30	55 3 0				
	16 7	77 57 0	55 31 45				
	18 31	77 56 0	55 57 0	}	29.99	52	166 24 45
	21 2	77 56 0	56 21 0				
		+ 1 39½	+ 12	Corrections of the Quadrants.			
		+ 0 30½	+ 12	Ditto			
h — 17.		43 46 45	46 36 15	}	29.94	51½	166 3 18
	21 34 44	45 0	19 45				
	38 30	44 30	9 30				
	40 12	44 30	3 0				
	41 44	43 0	45 51 0				
	44 0						

Observations at Dusky Bay, Continued

Lunar Observations

1773	Time by the Clock	Distance \odot and γ 's Limbs	Zenith Distance γ s L L	Double Alt of \odot s L L	Barom	Thermom	Longitude East
	H	\circ	\circ	\circ			\circ
15 April 17	21 48 21	43 41 45	45 30 0		29.94	51½	166 24 3
	52 34	41 15	11 45				
	54 38	40 30	2 45				
	56 46	40 0	44 54 15				
		+ 0 36½	+ 12	Corrections of the Quadrants			
	0 32 25	42 53 0	46 36 0	60 47	29 95	58	166 4 10½
	37 24	50 15	47 5 30	61 25			
	39 22	50 0	15 45	61 40			
	41 36	50 0	27 30	61 54			
	44 24	48 45	43 45	62 12	29 95	58	166 24 55½
	55 23	46 0	48 51 0	63 29			
	58 6	45 0	49 7 0	63 47			
	1 0 20	43 45	26 0	64 5			
	3 16	43 0	41 0	64 14			
	5 23	42 30	54 15	64 25			
			+ 12	-10 15	Corrections of the Quadrants		
	18	19 18 38	60 30 0	74 16 15		29 87	43
23 58		32 0	73 26 0				
27 45		33 0	72 50 15				
31 33		34 0	72 12 0				
35 25		36 0	71 37 0		29 87	43	165 14 45
40 4		37 0	70 52 30				
43 14		37 30	70 23 15				
46 22		39 0	69 55 0				
49 24		40 30	69 26 0				
		- 15	+ 12	Corrections of the Quadrants			

The mean of all these Observations gives the Longitude of the Observatory $166^{\circ} 24' 46\frac{1}{2}"$ E
If the Observations of the γ 's distance from α Aquilæ be rejected, it will be $166^{\circ} 18' 9"$ East.

Observations at Dusky Bay, Continued.

Observations for finding the Variation of the Compaſs.

1773.	Zenith Diſt. o's U. L.	Azimuth of the o's center.	Double Altit. of the o's L. L.	Vari- ation Eaſt.
6 April 17.	Knight's Compaſs.	N. 17 35 E.	56 20	12 38½
		17 25	56 29½	
		17 30	56 36	
		17 20	56 45	
		17 0	56 52	
	Correction of the Quad.			+ 0 34
19.	80 30½	N. 47 55 E.		15 6½
		46 25		
		45 30		
		45 25		
		47 0		
	70 36½	N. 34 35 E.		13 25½
		35 15		
		33 50		
		34 10		
		32 20		
21.	69 26½	N. 60 10 W.		14 5½
		60 45		
		60 30		
		60 50		
		61 0		
	70 43½	64 0		
		+ 12	Correction of the Quad.	

* * Between every one of theſe Obſervations, except thoſe in the firſt ſet, I turned the compaſs quite round, ſometimes one way, and ſometimes the other; a precaution which, I am convinced from experience, is neceſſary to be taken by thoſe who would obtain the true quantity of the variation by an azimuth compaſs on ſhore.

Observations of the Dip of the Magnetic Needle.

		Face of the Instrument.		
		East.	West.	
		° ' "	° ' "	
♂ April 13.		71 5	70 45	Means.
		70 20	70 20	
		70 35	70 0	
		70 40	70 21 $\frac{1}{2}$	
	Changed the Poles.			
♂ — 19.		70 45	71 35	Means.
		70 0	71 0	
		70 15	71 50	
		68 10	69 35	
		68 0	69 30	
♂ — 20.		69 26	70 42	Means.
	Altered the balance.			
		69 20	69 35	
		69 5	69 0	
		70 10	69 0	
♂ — 21.		69 31 $\frac{1}{2}$	69 11 $\frac{1}{2}$	Means.
	Changed the Poles.			
		70 10	70 5	
		69 35	69 5	
		69 0	68 55	
♂ — 21.		70 10	70 30	Means.
		72 5	71 10	
		72 5	71 35	
		70 39 $\frac{1}{2}$	70 13 $\frac{1}{2}$	
		70 4 $\frac{1}{2}$	70 7 $\frac{1}{2}$	
		70 5 $\frac{1}{2}$	Mean of the two, or Dip of the Needle's S. End.	

The Needle was not readily balanced here; but it was done with much leſs trouble than at the Cape of Good Hope, owing, probably, to the change in the dip being leſs between that place and this than between that and England, or poſſibly from its having contracted leſs ruſt.

Observations at Dufky Bay, Continued

Observations on the Tides

1773	Apparent Time	Time by the Clock	Water below a certain Mark	Remarks	1773	Apparent Time	Time by the Clock	Water below a certain Mark	Remarks.
	H	H	P			H	H	I	
♂ April 6 — 7	4 28 46	23 30	2 4	High Water	♂ April 10 — 11		4 5	4 5	Low Water Evening Ditto, Morning High Water Aftern Low Water, Morning
		2 44	6 11	1 33			4 8		
		2 49	7 1				10 0		
		5 41	10 5				10 11		
		8 33	7 1				3 2		
		8 40	6 11				9 8		
		9 26	5 4						
		9 32	5 2				0 37		
		9 40	4 11				0 44		
		12 10	2 10				1 37		
		14 41	4 11				1 45		
		14 49	5 2				1 52		
24 — 8	23 1 35	14 56	5 4	High Water	♂ — 12	2 48 52	4 13	3 6	High Water
		21 58	4 11	6 33			5 3		
		22 20	4 6	6 40			5 6		
		22 36	4 0	6 50			5 9		
		22 45	3 8	7 57			7 2		
		0 17	2 8				9 4		
		1 54	3 8				4 5		
		1 59	4 0				4 9		
		2 17	4 6				4 10		
		2 28	4 11				5 36		
		10 6					5 45		
		10 58	4 4				6 2		
♀ — 9	17 37 47	11 11	3 11	Low Water	♀ — 13	3 32 2	6 14	4 5	High Water
		11 26	3 6	6 13			6 7		
		11 37	3 3	21 13			6 10		
		12 45	2 6	21 29			7 1		
		13 50	3 3	21 42			7 1		
		14 4	3 6	0 0			8 10		
		14 21	3 12	3 23			7 1		
		14 36	4 4	2 34			6 10		
		18 56	10 5	2 48			6 7		
		23 9	4 6	2 50			4 10		
		23 16	4 4	4 40			4 7		
		23 22	4 2	4 52			4 4		
♂ — 10	0 46 23	23 32	3 11	High Water	♀ — 14	4 50 11	6 29	3 6	High Water
		1 12	2 8	8 4			4 4		
		2 55	3 11	8 19			4 7		
		3 3	4 2	8 29			4 10		
		3 9	4 4				3 11		
		3 16	4 6				0 25		
		10 6					0 31		
		10 1					0 47		
							3 30		
							4 10		
							4 28		
							4 10		
24 — 10	0 46 23	0 7	4 1	Low Water Evening	♀ — 15	0 44 20	0 25	3 10	Low Water
		23 57	4 5	20 25			3 10		
		0 17	3 10	21 9			3 7		
		2 9	2 10	21 51			3 10		
		4 0	3 10	22 15			1 1		

This forenoon the tube got moved out of its place by some means or other; I replaced it and then made the following Observations,

This forenoon the tube got moved out of its place by some means or other; I replaced it and then made the following Observations,

Observations at Dusky Bay, Continued.

Observations on the Tides.

1773.	Apparent Time.	Time by the Clock.	Water below a certain Mark.	Remarks.	1773.	Apparent Time.	Time by the Clock.	Water below a certain Mark.	Remarks.
	H	M	F. I.			H	M	F. I.	
2 April 16.		23 45	5 4		2 April 20.		6 42	8 4	
		0 5	5 7				7 20	7 11	
		0 27	6 0				10 59	3 7	
		0 54	6 6				11 16	3 4	
5 — 17.	1 47 33	3 37 1	8 5	Low Water.		9 56 10	11 58 1	3 2	High Water.
		6 20	6 6				12 33	3 4	
		6 42	6 0				13 5	3 7	
		7 13	5 7				22 19	4 4	
		7 31	5 4				22 46	4 0	
		7 50	4 9				22 57	3 10	
	8 4 48	9 55 1	3 7	High Water.		12 20 48	0 24 8	3 11	High Water.
		11 56	4 9				1 55	3 10	
		12 20	5 4				2 5	4 0	
		12 39	5 7				2 27	4 4	
		13 12	6 0				4 40	7 4	
		20 16	4 9				4 52	7 6	
		20 32	4 5				6 35 1	8 5	Low Water.
		20 47	4 2			4 30 14	8 19	7 6	
	20 14 40	22 7 1	3 7	High Water.			8 30	7 4	
		23 25	4 2				11 14	3 7	
		23 40	4 5				11 26	3 5	
		0 3	4 9				11 43	3 3	
18.			8 4 1	Low Water.		10 29 2	12 35	2 10	High Water.
			3 6	High Water, Evening.			13 28	3 3	
		10 50	4 9				13 42	3 5	
		21 13	4 4				13 57	3 7	
		21 37	4 0					8 6	Low Water.
	21 1 56	22 56 1	3 5	High Water.			23 54	3 6	
		0 14	4 0				0 27	3 2	
		0 40	4 4			22 57 2	1 5	2 10	High Water.
		1 4	4 9				1 45	3 2	
Made a new rod to my instrument, the former having, by accident, got broke, and the distance from the bottom of the floor to the first division being shorter by $1\frac{1}{2}$ inches than in the former; this will give all distances of the water from the mark greater by that quantity.					22.		2 14	2 6	Low Water.
			8 7				12 10	3 7	
			12 28				12 42	3 2	
			13 19 1			11, 9 26	13 19 1	2 10	High Water.
			13 56				14 10	3 4	
			14 30				14 30	3 7	
			19 37 1			17 26 36	19 37 1	8 7 1	Low Water, Morning.
			23 59				23 59	4 2	
			0 45				0 45	3 7	
			1 42			23 30 8	1 42	3 0	High Water.
			2 38				2 38	3 7	
			3 26				3 26	4 2	
			8 8					8 8	Low Water, Evening
			3 1					3 1	High Water.
			8 7					8 7	Low Water, Morning.
			12 1				12 1	3 7	
			12 26				12 26	3 4	
			12 48			0 3 13	12 48	3 2	High Water.

Observations at Dusky Bay, Continued

Observations on the Tides

1773	Apparent Time.	Time by the Clock	Water below a certain Mark		Remarks	1773	Apparent Time	Time by the Clock	Water below a certain Mark		Remarks
	H ° ' "	H ° ' "	F	I			H ° ' "	H ° ' "	F	I	
17 April 24	18 1 2	13 10	3	4	Low Water	☉ April 25 D — 26	0 41 35	11 45	4	6	High Water
		13 35	3	7				12 15	4	0	
		5 12	7	8				13 26 1/2	3	6 1/2	
		5 47	8	3				14 35	4	0	
		6 45 1/2	8	6				15 10	4	6	
		7 44	8	3				8 4	Low Water Evening		
☉ — 25		8 20	7	8	Low Water				8	4	Low Water Morning
			8	5							

I made the preceding Observations by the help of a wooden tube, about 12 feet long and three inches square, which was placed upright in the water, and fixed firm to a large tree that hung over it. The tube had a small aperture at the bottom, whereby the water was admitted, so that the swell of the sea had little effect on the water in the tube, and the distance of the water from a mark on the top of the tube, was measured by a slender rod, divided into feet and inches, from the bottom upwards.

Observations at Dusky Bay, Continued.

The Latitude of Dusky Bay, deduced from Observations of the Sun and fixed Stars, when on the Meridian.

	Interior Arch.	Exterior Arch.
The error of the line of collimation, of the Quadrant, by a mean of the four Observations of γ Navis.	" 10,2 Add.	" 28,2 Subt.
By a mean of the four Observations of δ Navis.	13,2 Add.	32,2 Subt.
The mean of two gives	11,7 Add.	30,2 Subt.

1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.
By Observations of the Sun.			
9 April 5.	45 47 2	45 46 37	6 7 32
11.	45 48 12	45 47 38	8 21 47 $\frac{1}{2}$
15.	45 47 56	45 47 34	9 48 37 $\frac{1}{2}$
16.	45 47 56 $\frac{1}{2}$	45 47 33 $\frac{1}{2}$	10 9 57
18.	45 47 44	45 47 36 $\frac{1}{2}$	10 52 5 $\frac{1}{2}$
22.	45 48 15 $\frac{1}{2}$	45 47 55	12 14 13 $\frac{1}{2}$
	45 47 51	45 47 29	Mean of all by the Sun.
By Observations of Procyon.			
6.	45 47 25 $\frac{1}{2}$	45 46 52	5 47 30 $\frac{1}{2}$ N.
11.	45 47 2	45 46 49 $\frac{1}{2}$	
16.	45 47 6	45 46 46 $\frac{1}{2}$	
18.	45 47 20 $\frac{1}{2}$	45 47 54	
	45 47 13 $\frac{1}{2}$	45 46 53 $\frac{1}{2}$	Mean of all by Procyon.
By Observations of β Navis.			
11.	45 46 47	45 47 34	68 47 11 8.
16.	45 47 9 $\frac{1}{2}$		
18.	45 47 10	45 47 33	
21.	45 47 30	45 47 43 $\frac{1}{2}$	
	45 47 9	45 47 26 $\frac{1}{2}$	Mean of all by β Navis.

1773.	Latitude by interior Arch.	Latitude by exterior Arch.	Declination.
By Observations of γ Navis.			
11.	45 48 0	45 47 52	46 40 31 $\frac{1}{2}$ South.
16.	45 47 26 $\frac{1}{2}$	45 47 36	
18.	45 47 18	45 47 38	
22.	45 47 45 $\frac{1}{2}$	45 48 2	
	45 47 37 $\frac{1}{2}$	45 47 47	Mean of all by γ Navis.
By Observations of δ Navis.			
16.	45 47 35 $\frac{1}{2}$	45 47 38 $\frac{1}{2}$	53 52 58 $\frac{1}{2}$ South.
18.	45 47 24 $\frac{1}{2}$	45 47 32 $\frac{1}{2}$	
21.	45 47 35	45 47 44	
22.	45 47 30 $\frac{1}{2}$	45 47 35 $\frac{1}{2}$	
	45 47 31 $\frac{1}{2}$	45 47 37 $\frac{1}{2}$	Mean of all by δ Navis.
	45 47 37 $\frac{1}{2}$	45 47 47	Ditto, γ .
	45 47 9	45 47 26 $\frac{1}{2}$	Ditto, β .
	45 47 20	45 47 37	Mean of all the Southern Observ.
	45 47 51	45 47 29	Mean of all by the Sun.
	45 47 13	45 46 53 $\frac{1}{2}$	Mean of all by Procyon.
	45 47 32 $\frac{1}{2}$	45 47 11 $\frac{1}{2}$	Mean of all by Northern Observ.
	45 47 26	45 47 37	Ditto, Southern Observations.
	45 47 29 $\frac{1}{2}$	45 47 24 $\frac{1}{2}$	Ditto of the two.

And by taking the Mean of the two Arches, the Latitude is $45^{\circ} 47' 26\frac{1}{2}''$ South.

*. Three double altitudes of the Sun's Limb, taken with Hadley's Quadrant from a quick-silver horizon, gave the Latitude of the Observatory $45^{\circ} 48' 44''$, $45^{\circ} 47' 30''$, and $45^{\circ} 47' 23''$, the mean of which is $45^{\circ} 47' \frac{1}{2}''$ South.

Observations at Dusky Bay, Continued

Computations of the Clock's Rate of going

1773	Time of Noon by the Clock	Syderial Time of apparent Noon	Mean Time of apparent Noon	Clock fast of Syderial Time	Clock fast of mean Time	Clock gains on Syderial Time	Clock gains on mean Time
	H	H	H		H		
April 5	1 4 36 4	0 57 15 0	0 2 45 3	7 21 4	1 1 51 1		
6	1 8 20 0	1 0 53 7	0 2 27 5	7 26 3	1 5 52 5	0 49	4 1 4
11	1 26 50 9	1 19 10 7	0 1 20	7 40 2	1 25 48 9	0 28	3 59 3
17	1 49 17 9	1 41 17 2	23 59 29 5	8 0 7	1 49 48 4	0 34	3 59 9
18	1 53 4 7	1 44 59 7	23 59 15 4	8 5 0	1 53 49 3	0 43	4 0 9
19	1 56 41 9	1 48 42 6	23 59 1 7	7 59 3	1 57 40 2	Clock stopped	
20	2 0 29 6	1 52 25 8	23 58 48 5	8 3 8	2 1 41 1	0 45	4 0 9
21	2 4 17 8	1 56 9 5	23 58 35 7	8 8 3	2 5 42 1	0 45	4 1 0
Mean gain of the Clock						0 4 066	4 0 566

Computations of the Rate that Mr Kendall's Watch went at

1773	Time of apparent Noon by the Clock	Time by Clock when the Watch was com- pared	Time from Noon by the Clock	Time from Noon by the Watch	Time by the Watch when com- pared	Time of ap- parent Noon by the Watch	Mean Time of apparent Noon	Watch slow of mean Time	Watch gain on mean Time
	H	H			H	H	H	H	
April 6	1 8 20 0	1 30 0	21 40 0	3 6	13 8 47 2	12 47 10 8 5	0 2 27 5	11 15 16 6 5	77
11	1 26 50 0	1 43 0	16 9 1	2 7	16 6 4	12 46 14 1	0 1 19	11 14 47 8	36
17	1 49 17 5	1 59 0	9 42 5	1 6	9 10 9	12 55 12 2	23 59 29 5	11 13 57 6 3	25
18	1 53 4	2 28 0	34 55 3	5 8	34 49 5	12 43 23 0	23 59 15 4	11 13 52 4	80
19	1 56 41 5	2 1 0	4 18 1	0 7	4 17 4	12 45 14 1	23 59 1 7	11 13 47 6	10
20	2 0 29 6	2 33 0	32 30 4	5 4	32 25 0	12 45 9 0	23 58 48 5	11 13 39 5	70
21	2 4 17 8	2 20 0	15 42 2	3 6	15 39 6	12 45 29	23 58 35 7	11 13 32 8	638
By the Watch itself the Clock being taken down									
25	12 44 41 7	12 43 57 5	0 43 2	0 0 1	0 43 2	12 43 57 3	12 44 41 7	23 57 49 0	11 13 7 3
The mean of all is									4 86

But if the first and last be taken only, the rate of the Watch will be gaining 6' 808 on mean time each day. If a mean be taken of all the Comparisons which can be formed out of the above, its gain on mean time will be 6", 726

Observations at Dusky Bay, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1773.	Time of apparent Noon by the Clock.			Time by Clock when the Watch was com- pared.			Time from Noon by the Clock.			Clock's gain on the Watch.			Time from Noon by the Watch.			Time by the Watch when com- pared.			Time of apparent Noon by the Watch.			Mean Time of apparent Noon.			Watch slow of mean Time.			Watch gains on mean Time.
	H	"	"	H	"	"	"	"	"	H	"	"	H	"	"	H	"	"	H	"	"	H	"	"	H	"	"	
April 6.	1	8	20.0	1	30	0	21	40.0	5.13	21	34.87	9	35	57.75	9	14	22.88	0	2	27.5	14	48	4.62					
11.	1	26	50.9	1	43	0	16	9.13	3.78	16	5.32	9	21	18.50	9	5	15.18	0	1	1.9	14	55	48.72				93.22	
17.	1	49	17.5	1	59	0	9	42.5	2.26	9	40.24	9	2	17.08	8	52	36.76	23	59	29.5	15	6	52.74				110.67	
18.	1	53	4.7	2	28	0	34	55.3	8.0	34	47.30	9	25	33.75	8	50	46.45	23	59	15.4	15	8	28.95				96.21	
19.	1	56	41.5	2	1	0	4	18.1	1.03	4	17.7	8	53	9.08	8	48	51.93	23	59	1.7	15	10	9.77				100.82	
20.	2	0	29.6	2	33	0	32	30.4	7.47	32	22.93	9	19	18.50	8	46	55.57	23	58	48.5	15	11	52.93				103.16	
21.	2	4	17.8	2	20	0	15	42.2	3.61	15	38.59	9	0	49.75	8	45	11.16	23	58	35.7	15	13	24.54				91.61	
By Mr. Kendall's Watch, the Clock being taken down.																												
25.	12	44	41.7	12	43	57.5	0	43.2	0.51	0	43.15	8	37	0.08	8	37	43.15	23	57	49.0	15	20	6.85				100.58	
The mean of all is																										99.467		

But if the first and last day's Observations be taken only, the gain of this Watch, each day, on mean time, will come out $101''$,17. If a mean be taken of all the comparisons which can be formed out of the above Observations, its gain each day, on mean time, will be $101''$,051.

ASTRONOMICAL OBSERVATIONS

Observations at Queen Charlotte's Sound, in New Zealand, made by
Mr Bayley

1773	Equal Altitudes Times by Clock, marked C			Zenith Distance	Transit over the Meridian	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	" "	" "	" "			
April 19	51 34 54 49 16 50 20 18 43 1 36 37	21 54 25 21 57 44 22 19 53 22 23 22 22 36 11 22 39 49	51 19 0 35 22 57 — 39 22 —	75 25 71 23 68 55		<div> <div> O S U L O S L I O S U L O S L L O S U L O S L L </div> Easterly </div>
— 20	6 47 10 23 23 5 — — 51 49 2 5 5 25	5 5 7 14 5 20 3 5 23 30 5 22 5 0 22 8 23	— 4 4 17 58 20 28 42 45 7 55 11 21	68 55 71 23 75 25 74 20	1 51 56 5	<div> <div> O S L L O S U L O S L L O S U L O S L I O S U L O S L L </div> Westerly </div> <div> O S U L O S L L O S U L O S L L </div> Easterly
— 21	42 30 45 51	5 39 32 5 42 55	36 34 39 58	74 20	1 54 13,01	<div> O S L L O S U L </div> Westerly
— 23	15 44 21 33 25 46	23 15 14 23 19 19 23 25 14 23 29 31	18 48 — 28 50 33 19	65 48 61 30		<div> O S U L O S L L O S U L </div> Easterly
— 24	35 45 45 46 26 40 30 10	4 32 1 4 36 17 4 12 10 4 46 17 22 29 44 22 33 15 23 1 59 23 5 51	28 14 32 34 — 42 43 32 49 — 5 31 —	64 30 65 48 72 54 68 11	2 0 59 9	<div> <div> O S L L O S U L O S L L O S U L O S L L O S U L O S L L </div> Westerly </div> <div> O S U L O S L L O S U L O S L L O S U L O S L L </div> Flying Clouds } Easterly
— 25	2 27 3 39 — — 26 4 30 8 — —	5 0 16 5 4 7 5 32 49 — 22 29 43 22 33 13 22 42 26 22 46 31	— — — 33 14 32 47 36 19 49 14	68 11 72 54 73 30 71 35	2 3 16,9	<div> O S L L O S U L O S L L O S U L O S L L O S U L O S L L </div> Cloudy Westerly
						<div> O S L L O S U L O S L L O S U L O S L L </div> Easterly

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Equal Altitudes. Times by Clock C.			Zenith Distance.	Transit over the Meridian.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	H " "	" "			
o April 25.	52 23 56 5	22 55 38½ 22 59 24½	58 56 2 44	69 40 0		o's U. L. { Easterly. o's L. L. {
o — 26.	14 36½ 18 19	5 11 17½ 5 15 3	7 55½ 11 45½			2 5 34,44
		5 24 37 5 28 15	21 26½	71 35 0		Westerly.
	40 30 43 59½	5 37 25½ 5 40 55½		73 30 0		
	Put the Clock 12 minutes forward.					
	54 48 24 30	8 58 31½ 14 20 48	2 16 17 4	68 2 0	11 39 39,6	o Leonis, East. Ditto, West.
	21 48½ 8 54½	9 24 23½ 17 6 20½	26 57½ 3 45½		13 15 21,64	Spica Virginis, East. Ditto, West.
	42 53 46 24½	22 45 58 22 49 29½	49 3½ 52 35½	73 27 0		o's U. L. { o's L. L. { o's U. L. { o's L. L. {
	3 50 7 32½	23 7 6 23 10 50½	10 22 14 9½	70 20 0		Easterly.
o — 27.					2 19 51,8	
	31 43½ 35 26	5 28 26 6 32 10	25 7 28 53	70 20 0		o's L. L. { o's U. L. { o's L. L. { o's U. L. {
	52 51½ 56 21	5 49 45½ 5 53 17	46 38 50 11	73 27 0		Westerly.
o — 28.		22 45 48½ 22 49 20½	48 55½ 52 26	74 40 0		o's U. L. { o's L. L. { o's U. L. { o's L. L. {
	46 13½ 58 12	23 1 24		72 20 0		Easterly.
	1 49½	23 5 2½			2 24 29,03	
o — 29.						
	46 40 50 17	5 43 29 5 47 6		72 20 0		o's L. L. { o's U. L. { o's L. L. { o's U. L. {
	2 14½ 5 43	6 59 8½ 6 2 4	59 34½	74 40 0		Westerly.
o — 30.	48 16½ 51 46½	22 51 22 22 54 53		75 0 0		o's U. L. { o's L. L. { o's U. L. { o's L. L. {
	1 35 5 12	23 4 48 23 8 26½	7 59½ 11 41	73 0 0		Easterly.
o May 1.					2 29 6,95	
	52 35 56 11	5 49 21½ 5 53 2	46 7 49 48½	73 0 0		o's L. L. { o's U. L. { o's L. L. { o's U. L. {
	6 0 9 29	6 2 53 6 6 25½	59 46 3 19	75 0 0		Westerly.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Equal Altitudes Times by Clock C			Zenith Distance	Transit over the Meridian	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	H	H			
h May 1	55 3 58 37 11 21 15 3½	22 58 11 23 1 46½ 23 14 36 23 18 21½	1 20 4 57½ 17 52 21 40½	74 33 0 72 9 0		O's U L O's L L } Easterly O's U L O's L L }
O — 2						
	51 6 3 50 7 22½	5 44 5 5 47 51 6 0 40 6 4 16	40 47½ 44 33½ 57 28 1 6	72 9 0 74 33 0		α Centauri, East Ditto, West
h — 3	52 2½ 40 6½	8 55 57 19 36 12	59 50 32 18½	50 40 0	14 16 4,37	O's U L O's L L } Easterly O's U L O's L L }
h — 5	9 47½ 28 2½ 32 11½	23 13 0 23 16 39½ 23 31 44½	16 14 19 55 35 8			
h — 6	49 8½ 52 58½	5 45 43½ 5 49 36	42 16½ 46 11½	72 0 0 74 40 0	2 40 52,48	O's L L O's U L } Westerly O's L L O's U L }
	11 31 18 15 21 58½	6 4 39½ 6 8 19 23 21 31	1 24½ 5 5½ 24 48			
h — 7		6 0 50½ 6	57 29½ 1 17½	74 0 0	2 43 15,45	O's L L } Westerly O's U L }
h — 8	Put the Clock 20 minutes forward					
h — 17	4 52 9 42½	1 9 7½ 1 14 4½	13 29 18 36	68 32 0		O's U L } Easterly O's L L }
h — 18	49 31½ 54 27½	5 45 10½ 5 50 7½	40 41½ 45 48			
h — 19	10 33 11 33½	9 53 14 16 8 52	56 57 6 9		13 1 2,9	Spica Virginis, East Ditto West O's U L } Easterly O's L L }
	44 52	1 44 8				
h — 20	24 28	5 25 9				

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian.					Phenomena and Remarks.
	Time by the Clock C.					
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
			H			
8 April 20.	Having fixed up the Transit Instrument, I levelled the axis, adjusted the line of collimation, and directed it, by means of the horizontal adjusting screw, to a very good mark on an Island to the Northward.					
21.	51 53	52 35— 54 46½	1 53 18½ 1 55 29½	54 1½ 56 12—	— 56 54½	☉'s First L. ☉'s Second L.
These Observations being compared with the time of noon deduced from equal altitudes, shew that the Instrument was 10", 67 in time West of the true meridian.						
23.	Moved the Instrument very near the true meridian, where it accidentally cut two very good marks, one about a mile and quarter to the Northward, and the other about 4½ miles to the Southward. By these two marks the Instrument was generally examined before every Observation in the day-time.					
24.	58 28½	59 10½ 1 21½	1 59 54½ 2 2 5½	0 37 2 48½	— 3 30½	☉'s 1st L. } By these the Instrument is 0", 6. ☉'s 2d L. } East of the true meridian.
25.	0 44½	1 26½	2 2 10— 2 4 22—	2 55 5 4½	— 5 47½	☉'s 1st L. } These make the Instrument 1", 15. ☉'s 2d L. } East of the true meridian.
26.	3 51½	3 43½ 5 56— 15 21½ 32 42½	2 4 27½ 2 6 39 5 16 7+ 5 33 24½ 7 21 49—	5 10½ 7 22— 6 52½ 34 7	— 8 4½	☉'s 1st L. } Instrument 1", 32 East of the me ☉'s 2d L. } ridian. ☾'s 1st Limb. α Orionis. Pollux.
Put the Clock 12 Minutes forward.						
27.	38 12½	57 49½ 38 5½ 14 51½	9 58 32— 11 12 16 22—	59 16— 40 21½ 17 50½	— 41 5½	Regulus. β Leonis. Instrument 0", 54 East. α Crucis.
	13 57½	14 30— 29 52+ 5 52+ 6 36	13 15 22½ 13 31 12½ 14 7 21½ 14 26 27½	16 5½ 32 33½ 8 6+ —	16 45½ — 8 50½	Spica Virginis. Instrument 0", 44 East of Merid. α Eridani: below the Pole. Arcturus.
	17 20—	29 11+ 18 1½ 20 13½	1 30 31 2 18 45½ 2 20 57½ 4 24 2½	31 51½ 19 28½ 21 40½ —	— — 22 23	α Centauri. α Eridani: above the Pole. ☉'s 1st Limb. ☉'s 2d Limb.
	3 20	4 1+ 42 32½ 17 47—	5 4 44— 5 43 56½ 6 19 16+ 6 36 9 7 20 57½ 7 28 22	5 26 44 38½ 20 2 — —	6 7½ 45 20½ 20 46½	Aldebaran. Rigel. α Orionis. ☾'s 1st Limb: very good.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks
	First Wire.	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H "	"	"	
8 April 27	—	31 32½	7 32 20½	33 8½	—	Pollux
	—	—	9 11 33½	—	—	β Navis above the Pole
	—	—	9 17 17+	—	—	α Hydræ
	55 39½	56 21+	9 56 59½	57 48—	58 30—	Regulus
	36 44+	37 27—	11 38 11—	38 54½	39 37½	β Leonis
	—	27 41½	1 29 2½	30 22½	—	α Eridani above the Pole
28	19 37	20 19+	2 21 3—	21 46+	—	○'s 1st L.
	—	22 31—	2 23 5	23 58½	24 41½	○'s 2d L.
	9 30½	10 14½	7 11 0	11 45½	12 30	○'s 1st L.
29	21 55½	22 37½	2 23 21½	—	—	○'s 2d L.
	—	—	2 25 33½	26 17½	26 59½	Canopus above the Pole
	—	16 47½	6 16 57½	18 6½	—	Syrus
	31 44½	32 31½	6 33 11½	33 54½	34 38—	Castor
	—	17 14½	7 18 4½	18 54½	—	Procyon
	—	24 41½	7 25 24	26 6½	—	Pollux
	—	—	7 29 23	—	—	○'s 1st L.
	1 38—	2 21+	8 3 1	3 51—	4 35½	β Navis above the Pole
	—	6 35	9 8 30+	10 25—	—	α Hydræ
	—	—	9 14 19+	—	—	Regulus
	—	—	9 54 6½	—	—	β Leonis
	33 46½	34 29½	11 35 13+	35 56½	36 39½	α Crucis
	—	10 25½	12 11 55+	13 14½	—	γ —
	—	15 13—	12 16 28+	17 42½	—	β —
	—	31 16—	12 32 22+	33 42	—	α Eridani below the Pole
	—	25 26½	13 26 46½	28 7½	—	α Centauri
	—	20 36—	14 22 0	23 24+	—	Canopus below the Pole
	—	15 3—	18 16 11½	17 21½	—	β Navis below the Pole
30	—	—	21 6 16½	—	—	α Eridani above the Pole
	—	—	1 24 35½	—	—	○'s 1st L.
May 1	26 34	27 16+	2 28 0	—	—	○'s 2d L.
	—	—	2 30 12½	30 56½	31 38½	Syrus
	—	—	6 30 14—	—	—	Pollux
	—	25 38—	7 26 26+	27 14—	—	β Navis above the Pole
	—	3 37½	9 5 34½	7 32	—	○'s 1st Limb good.
	—	47 34½	9 48 17½	49 2—	—	Regulus
	—	50 25½	9 51 9+	51 52½	—	β Leonis
	30 49	31 31½	11	32 59½	33 42	α Eridani above the Pole
	—	—	1 23 6½	—	—	○'s 1st L.
2	28 53½	29 35½	2 30 20	—	—	○'s 2d L.
	—	—	2 32 32½	33 15½	33 58½	α Orionis
	—	35 49½	5 36 32½	37 15—	—	

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.					Phenomena and Remarks.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
○ May 2.		2 10+	9 4 7+	6 3—	—	β Navis: above the Pole.
		9 10	9 9 53—	10 35½	—	α Hydæ.
	48 15½	—	9	50 23½	51 6—	Regulus.
		41 7½	10 41 51	42 33½	—	δ's 1st Limb: very good.
— 3.	31 14	31 57—	2 32 41	—	—	○'s 1st L.
	—	—	2 34 53½	35 37+	36 20	○'s 2d L.
	—	18 46½	7 19 29+	20 11+	—	Procyon.
	—	—	7 23 28+	—	—	Pollux.
	—	—	9 2 37	—	—	β Navis: above the Pole.
	7 0+	7 41½	9 8 24+	9 6½	9 48½	α Hydæ.
	46 46	47 28+	9 48 11½	48 55—	49 37+	Regulus.
	—	—	11 29 18½	—	—	β Leonis.
	—	35 53½	11 36 37+	37 20—	—	δ's 1st Limb: good.
	18 14—	19 33½	13 20 54+	22 14½	23 22+	α Eridani: below the Pole.
	55 32—	56 15½	14 57 0+	57 45½	58 29—	Arcturus.
	—	14 40—	14 16 4+	17 28+	—	α Centauri. Instrument 0°, 25 East.
	—	9 8—	18 10 18	11 28	—	Canopus: below the Pole.
	—	59 58	21 1 53	3 51—	—	β Navis, Ditto.
	—	—	21 6 20	—	—	α Navis, Ditto.
— 4.	33 34—	34 17	2 35 1½	—	—	○'s 1st L.
	—	—	2 37 14½	37 58	38 41	○'s 2d L.
	—	—	7 18 0+	—	—	Procyon.
	—	11 11—	7 21 59½	22 47—	—	Pollux.
	—	27 46	8 28 58	30 9½	—	β } Navis: above the Pole.
	—	59 11½	9 1 9	3 5—	—	α Hydæ.
	5 31+	6 13—	9 6 56—	7 38—	8 20—	Regulus.
	—	46 0—	9 46 43	47 26½	—	○'s 1st L.
— 5.	—	36 39—	2 37 23	—	—	○'s 2d L.
	—	—	2 39 36—	40 19½	—	α Hydæ.
	4 2½	4 44+	9 5 27+	6 9½	6 51½	Spica Virginis.
	0 38½	1 20—	13 2 3—	2 46—	3 27+	α Eridani: below the Pole.
	—	—	13 17 55	—	—	δ's 1st Limb: good.
	30 27—	31 19+	13 31 53	32 37	33 19½	Arcturus.
	—	53 17½	13 54 2½	54 47½	—	α Centauri: above the Pole.
	—	11 43—	14 13 7	14 31+	—	α Libræ.
	25 37½	26 19½	14 27 3½	27 47+	28 30—	α Eridani: above the Pole.
	—	15 51—	1 17 11½	18 31½	—	α Centauri: below the Pole.
— 6.	38 18½	39 0½	2 12 22	—	—	○'s 1st L.
	—	—	2 39 45+	—	—	○'s 2d L.
	29 14—	29 55	2 41 58½	42 43+	43 25+	α Orionis.
	—	—	5 30 38—	—	32 1½	

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transit of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks.
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H	"	"	
4 May 6			6 6 37			Canopus above the Pole
		14 20+	7 15 3	15 45		Procyon
		18 14	7	19 49 ⁺		Pollux
			8 6 25 ⁺			β } Navis above the Pole
		56 13 ⁺	8 58 11+	0 7		α } Hydrae
		3 15	9	4 40		β Leonis
	18 25	19 8+	11 19 51 ⁺	20 35	21 18	Spica Virginis.
		59 51+	13 0 34	1 16 ⁺		α Eridani below the Pole.
		15 6	13 16 26	17 47		Arcturus
	51 5	51 49	13 52 34	53 18+	54 2 ⁺	β 's 1st Limb good
	31 30 ⁺	32 13 ⁺	14 32 58 ⁺	33 42 ⁺	34 21	β } Navis below the Pole
		8 19 ⁺	20 4 40	6 2		α Eridani above the Pole
		55 29+	20 57 25+	59 22+		α Eridani above the Pole
		14 22	1 15 43	17 2		O's 1st L
8 — 7	40 40	41 23	2 42 7			O's 2d L
			2 44 20 ⁺	45 4 ⁺	45 48	α Eridani below the Pole
			13 14 57			Arcturus.
	49 36		13 51 4 ⁺	51 49 ⁺	52 33	α Cor Bor
	9 12	9 58	15 10 45 ⁺	11 33+	12 19 ⁺	α Serpentis
	17 23	18 4	15 18 46 ⁺	19 29	20 10 ⁺	β 's 2d L
	36 54 ⁺	37 38 ⁺	15 38 23 ⁺	39 8 ⁺	39 52 ⁺	α Eridani above the Pole
		12 52 ⁺	1 14 13	15 33+		O's 1st L
6 — 8		43 46	2 44 30			O's 2d L
			2 46 44	47 27 ⁺		β Navis above the Pole
			8 23 02			Spica Virginis
			12 57 34 ⁺			α Eridani below the Pole
		12 8	13 13 27 ⁺	14 49		Arcturus.
	48 6	48 50	13 49 34 ⁺	50 19 ⁺	51 4	α Libræ.
	21 9 ⁺	21 51 ⁺	14 22 36	23 19 ⁺	24 2	α Cor Bor
	7 42 ⁺	8 29	15 9 16+	10 3 ⁺	10 49 ⁺	α Serpentis.
	15 53		15 27 17	17 59	18 41+	Antares
	58 7 ⁺	58 53	15 49 40+		1 12 ⁺	β 's 2d Limb good
		41 25 ⁺	16 42 11 ⁺	42 56		α Ophiuchi.
			17 8 28			
	Put the Clock 20 Minutes forward					
0 — 9	5 26	6 9	3 6 54			O's 1st L
			3 9 7	9 50 ⁺	10 34	O's 2d L.
	18 6		9 19 30	20 12	20 54	α Hydrae
		58 39 ⁺	9 59 17	0 9 ⁺		Regulus
	14 41 ⁺	15 23 ⁺	13 16 6 ⁺		17 31	Spica Virginis.
			13 31 58			α Eridani below the Pole

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.					Phenomena and Remarks.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	"	"	H	"	"	
o May 9.	16 13 $\frac{1}{2}$ 34 24+	7 21 26 59 $\frac{1}{2}$	14 8 6 $\frac{1}{2}$ 15 27 47 $\frac{1}{2}$ 15 36 48+ 16 18 12	8 51— 28 35— 36 30 $\frac{1}{2}$	29 21 $\frac{1}{2}$ 37 12 $\frac{1}{2}$	Arcturus. a Cor. Bor. a Serpentis. Antares. a Ophiuchi. D's 2d Limb: good. a Eridani: above the Pole. o's 1st Limb. o's 2d Limb. Procyon. Pollux. d Navis: above the Pole. b Navis: above the Pole. a Hydra. D's 2d Limb: good. a Eridani. a Orionis. Sirius. Procyon. Pollux. Regulus. Antares. a Ophiuchi. Canopus: below the Pole. a } Aquilæ. b } D's 2d Limb: good.
D — 10.	7 50	8 23	1 31 14+ 11 31 $\frac{1}{2}$ 7 29 7— 7 33 6— 8 40 4 $\frac{1}{2}$ 9 12 9 $\frac{1}{2}$ 9 18 2 $\frac{1}{2}$ 19 6 5 $\frac{1}{2}$ 1 29 47 $\frac{1}{2}$ 5 43 12 $\frac{1}{2}$ 6 25 34 $\frac{1}{2}$ 7 27 37 $\frac{1}{2}$ 7 31 36 $\frac{1}{2}$ 9 16 15 14 $\frac{1}{2}$ 17 24 2 $\frac{1}{2}$ 18 18 25 $\frac{1}{2}$ 19 39 11 $\frac{1}{2}$ 19 43 38 $\frac{1}{2}$ 20 3 42 $\frac{1}{2}$ 20 7 41 $\frac{1}{2}$ 20 10 10 20 11 59 $\frac{1}{2}$ 20 17 14 $\frac{1}{2}$ 20 37 49 $\frac{1}{2}$ 21 9 59 $\frac{1}{2}$ 3 14 8 16 22 $\frac{1}{2}$ 6 34 55 $\frac{1}{2}$ 7 26 8 $\frac{1}{2}$ 7 30 6 $\frac{1}{2}$ 8 16 31 $\frac{1}{2}$	12 16— 12 59 $\frac{1}{2}$ 33 53+ 41 16— 18 44 $\frac{1}{2}$ 65 0 $\frac{1}{2}$ 31 7 26 8 $\frac{1}{2}$ 28 20 32 24 $\frac{1}{2}$ 57 3 $\frac{1}{2}$ 16 1 $\frac{1}{2}$ 24 44 $\frac{1}{2}$ 19 35 $\frac{1}{2}$ 39 53 $\frac{1}{2}$ 44 20 $\frac{1}{2}$ 4 26 $\frac{1}{2}$ 8 25 39 0 $\frac{1}{2}$ 11 56 $\frac{1}{2}$ 17 6 $\frac{1}{2}$ 26 50 $\frac{1}{2}$ 17 52 $\frac{1}{2}$	7 34 $\frac{1}{2}$	
d — 11.	4 36 28 27 26 14 54 54 $\frac{1}{2}$ 13 41 $\frac{1}{2}$ 22 36 $\frac{1}{2}$ 37 47 42 14 $\frac{1}{2}$ 2 13 $\frac{1}{2}$ 6 56 $\frac{1}{2}$ 12 40 $\frac{1}{2}$ 13 28	14 40 $\frac{1}{2}$ 26 55 $\frac{1}{2}$ 30 48 $\frac{1}{2}$ 55 36 $\frac{1}{2}$ 14 27 $\frac{1}{2}$ 23 18 $\frac{1}{2}$ 27 16 $\frac{1}{2}$ 38 28 $\frac{1}{2}$ 42 55 $\frac{1}{2}$ 2 56 $\frac{1}{2}$ 20 7 41 $\frac{1}{2}$ 20 10 10 20 11 59 $\frac{1}{2}$ 20 17 14 $\frac{1}{2}$ 20 37 49 $\frac{1}{2}$ 21 9 59 $\frac{1}{2}$ 3 14 8 16 22 $\frac{1}{2}$ 6 34 55 $\frac{1}{2}$ 7 26 8 $\frac{1}{2}$ 7 30 6 $\frac{1}{2}$ 8 16 31 $\frac{1}{2}$	14 40 $\frac{1}{2}$ 26 55 $\frac{1}{2}$ 30 48 $\frac{1}{2}$ 55 36 $\frac{1}{2}$ 14 27 $\frac{1}{2}$ 23 18 $\frac{1}{2}$ 27 16 $\frac{1}{2}$ 38 28 $\frac{1}{2}$ 42 55 $\frac{1}{2}$ 2 56 $\frac{1}{2}$ 20 7 41 $\frac{1}{2}$ 20 10 10 20 11 59 $\frac{1}{2}$ 20 17 14 $\frac{1}{2}$ 20 37 49 $\frac{1}{2}$ 21 9 59 $\frac{1}{2}$ 3 14 8 16 22 $\frac{1}{2}$ 6 34 55 $\frac{1}{2}$ 7 26 8 $\frac{1}{2}$ 7 30 6 $\frac{1}{2}$ 8 16 31 $\frac{1}{2}$	26 8 $\frac{1}{2}$ 28 20 32 24 $\frac{1}{2}$ 57 3 $\frac{1}{2}$ 16 1 $\frac{1}{2}$ 24 44 $\frac{1}{2}$ 19 35 $\frac{1}{2}$ 39 53 $\frac{1}{2}$ 44 20 $\frac{1}{2}$ 4 26 $\frac{1}{2}$ 8 25 39 0 $\frac{1}{2}$ 11 56 $\frac{1}{2}$ 17 6 $\frac{1}{2}$ 26 50 $\frac{1}{2}$ 17 52 $\frac{1}{2}$	29 1 $\frac{1}{2}$ 57 45 $\frac{1}{2}$ 16 46 $\frac{1}{2}$ 25 27 $\frac{1}{2}$ 40 35 $\frac{1}{2}$ 45 1 $\frac{1}{2}$ 5 10 $\frac{1}{2}$	
8 — 12.	12 40 $\frac{1}{2}$ 13 28	12 40 $\frac{1}{2}$ 13 23 $\frac{1}{2}$ 25 25 $\frac{1}{2}$ 15 9 $\frac{1}{2}$	20 10 10 20 11 59 $\frac{1}{2}$ 20 17 14 $\frac{1}{2}$ 20 37 49 $\frac{1}{2}$ 21 9 59 $\frac{1}{2}$ 3 14 8 16 22 $\frac{1}{2}$ 6 34 55 $\frac{1}{2}$ 7 26 8 $\frac{1}{2}$ 7 30 6 $\frac{1}{2}$ 8 16 31 $\frac{1}{2}$	17 6 $\frac{1}{2}$ 26 50 $\frac{1}{2}$ 17 52 $\frac{1}{2}$	17 50 $\frac{1}{2}$ 36 22 $\frac{1}{2}$	<p> About 25' S. of D's center, and about the 4th Mag. Two small *'s nearly in the same parallel with the D. </p> <p> The first of these is probably a, and the second, γ Capricorni; I cannot find the third in any Catalogue. W.W. </p> <p> β } Navis: below the Pole. o's First L. o's Second L. Sirius. Procyon. Pollux. a Navis: above the Pole. </p>

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian Times by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H			
May 12		35 54	8 37 6	38 17½		δ } Navis above the Pole
			9 9 17½			α Hydraz,
		14 20½	9 15 3½	15 45½		Regulus
		54 6½	9 54 50½	55 33½		α Ophiuchi
			17 22 32½			Canopus below the Pole.
		15 47	18 16 55½	18 5		
		32 44½	19 33 27½	34 10½		γ } Aquilæ
	36 17½	36 59½	19 37 42½	38 24½	39 6½	α }
		41 26½	19 42 8½	42 51½		β }
		54 23½	20 55 6½	56 49½		ν Aquarii
	56 23	57 6½	20 57 50½	58 34	59 17	δ's 2d Limb good.
			21 8 29			β } Navis below the Pole,
			21 39 15½			ν }
		51 15	21 51 57½	52 39½		α Aquarii
May 13	15 5½	15 48½	3 16 38½			ο's 1st L.
			18 47½	19 32½	20 15½	ο's 2d L.
		39 31	5 40 13½	40 56		α Orionis
		15 2½	6 16 12½	17 21½		Canopus.
			8 15 1½			
			8 35 35½			
			8 51 48½			
			9 7 46			δ } Navis above the Pole
		11 1½	9 12 14	13 25½		λ }
		36 56½	9 38 32½	40 8½		κ }
	51 56	52 37½	9 53 21½	54 4½	54 47½	υ } Regulus
			10 31 59½			
			10 33 23½			
May 14		32 55½	8 34 7½	35 18		δ } Navis above the Pole.
			9 6 18			β }
			9 10 45			κ }
			9 37 3½			υ }
		51 8½	9 51 52½	52 35½		Regulus
			10 30 30½			
			10 31 53½			δ } Navis above the Pole
			10 32 39½			η }
		43 33½	10 44 17½	45 1½		α Crateris

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian.					Phenomena and Remarks.
	Times by the Clock C.					
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	"	"	H "	"	"	
3 May 14.		31 59 $\frac{1}{2}$	20 33 10	34 21 $\frac{1}{2}$		δ } Navis: below the Pole*.
5 — 15.		20 46	21 9 48 $\frac{1}{2}$	22 10 $\frac{1}{2}$		Procyon.
	8 59 $\frac{1}{2}$	9 40 $\frac{1}{2}$	7 21 28 $\frac{1}{2}$	11 5 $\frac{1}{2}$	11 47 $\frac{1}{2}$	δ Navis: above the Pole.
		39 45 $\frac{1}{2}$	8 32 26 $\frac{1}{2}$	36 58 $\frac{1}{2}$		α Hydrae.
			9 10 23 $\frac{1}{2}$			ν Navis: above the Pole.
			9 35 22 $\frac{1}{2}$			Regulus.
			9 50 10 $\frac{1}{2}$			Spica Virginis.
17.			13 4 1 $\frac{1}{2}$			Arcturus.
	28 39 $\frac{1}{2}$	29 20 $\frac{3}{4}$	13 56 1	30 46 $\frac{1}{2}$	31 28	α Aquilae.
		53 41 $\frac{1}{2}$	19 36 4 $\frac{1}{2}$	55 8 $\frac{1}{2}$		Fomalhaut.
			22 35 13 $\frac{1}{2}$			ν 's 2d L.
			0 54 24 $\frac{1}{2}$			α Eridani: above the Pole.
18.	27 11	27 54 $\frac{1}{2}$	1 19 14 $\frac{1}{2}$	29 24 $\frac{1}{2}$		\odot 's 1st L.
		30 9 $\frac{1}{2}$	3 28 39 $\frac{1}{2}$	31 39 $\frac{1}{2}$	32 29 $\frac{1}{2}$	\odot 's 2d L.
		5 13 $\frac{1}{2}$	3 30 55	6 38 $\frac{1}{2}$		α Hydrae.
	44 17 $\frac{1}{2}$	44 59 $\frac{1}{2}$	9 5 56	46 26 $\frac{1}{2}$	47 8 $\frac{1}{2}$	Regulus.
	25 23	26 5 $\frac{1}{2}$	9 45 43 $\frac{1}{2}$	27 33	28 16 $\frac{1}{2}$	β Leonis.
			11 26 49 $\frac{1}{2}$			γ } Crucis.
			12 8 4 $\frac{1}{2}$	25 19 $\frac{1}{2}$		β } Navis.
	1 7 $\frac{1}{2}$	1 49 $\frac{1}{2}$	12 28 58	8 14 $\frac{1}{2}$	9 56 $\frac{1}{2}$	Spica Virginis.
			13 2 32 $\frac{1}{2}$			Arcturus.
			13 54 31 $\frac{1}{2}$			α Centauri.
		12 11 $\frac{1}{2}$	14 13 36	14 59 $\frac{1}{2}$		θ Navis.
		22 2 $\frac{1}{2}$	20 24 35 $\frac{1}{2}$	25 9 $\frac{1}{2}$		Fomalhaut.
	32 6 $\frac{1}{2}$	32 54	20 38 43 $\frac{1}{2}$	34 32 $\frac{1}{2}$	35 20 $\frac{1}{2}$	α Eridani: below the Pole.
		16 20 $\frac{1}{2}$	1 17 41 $\frac{1}{2}$	19 1		\odot 's 1st L.
19.	29 39	30 22 $\frac{1}{2}$	3 31 8	31 52 $\frac{1}{2}$		\odot 's 2d L.
		32 38 $\frac{1}{2}$	3 33 28 $\frac{1}{2}$	34 8 $\frac{1}{2}$	34 51 $\frac{1}{2}$	Syrus.
	21 51 $\frac{1}{2}$	22 33 $\frac{1}{2}$	5	24 1 $\frac{1}{2}$	24 44 $\frac{1}{2}$	Procyon.
		25 16	7 15 30 $\frac{1}{2}$	27 39 $\frac{1}{2}$		δ } Navis.
			8 26 28			β } Hydrae.
		3 42 $\frac{1}{2}$	8 58 38 $\frac{1}{2}$	5 7 $\frac{1}{2}$		Regulus.
			9 4 25 $\frac{1}{2}$			θ Navis.
			9 44 13 $\frac{1}{2}$			β Leonis.
	21 17 $\frac{1}{2}$	22 35 $\frac{1}{2}$	10 22 51 $\frac{1}{2}$	24 24	26 46 $\frac{1}{2}$	Spica Virginis.
	23 53 $\frac{1}{2}$	24 35 $\frac{1}{2}$	11 25 19 $\frac{1}{2}$			α Eridani.
			13 12 2 $\frac{1}{2}$			
		15 36 $\frac{1}{2}$	13 16 55	18 16		

* Mr. Bayley remarks that the

* Mr. Bayley remarks that the Clock appears to have lost 12" more than its usual rate between the transits of Regulus and δ Navis, which is obvious enough; and it is farther manifest, on examining the Observations, that it happened between the transits of α Crateris and δ Navis: Mr. Bayley farther remarks, that he is certain the Clock was not disturbed by any means whatever, as he was in the Observatory during the whole interval, and no other person but him- self all that time.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued.

The Error of the Transit Instrument deduced from Observations of Circum-polar Stars

1773	Transit above the Pole	Transit below the Pole	Interval by the Clock between the Observa- tions.	Clock loses be- tween the Ob- serva- tions	Error of Instru- ment where the * passed	Phenomena and Remarks
	H ' "	H ' "	H ' "			
April 26	25 30 31,22	13 31 12,69	11 59 18,23	44,56	1,46	* Eridani
— 29	6 16 57,37	18 16 11,81	11 59 14,44	44,64	0,46	Canopus
May 1	33 5 34,56	21 6 16,50	11 59 18,06	44,07	1,06	β Navis
— 3	9 2 37	21 1 53,69	11 59 16,69	44,29	0,49	β Navis
— 4	33 1 8,53	21 1 53,69	11 59 14,84	44,37	0,39	β Navis
— 5	25 17 11,38	13 17 55	11 59 16,38	44,83	0,60	* Eridani
	14 13 7	26 12 22	11 59 15,0	44,83	0,09	* Centauri
— 6	8 5 25,5	20 4 40,19	11 59 14,69	44,82	0,25	β } Navis.
	8 58 10,79	20 57 25,38	11 59 14,59	44,82	0,30	β } Navis.
	25 15 42,38	13 16 26,06	11 59 16,32	44,82	0,57	β } Navis.
— 7	1 15 42,38	13 14 57,0	11 59 14,62	44,81	0,29	} * Eridani
	25 14 12,94	13 14 57,0	11 59 15,94	44,81	0,38	} * Eridani.
— 8	1 14 12,94	13 13 28,0	11 59 15,06	44,32	0,32	} * Eridani.
— 9	25 31 44,25	13 31 58,0	11 59 16,25	44,56	0,40	* Eridani
— 12	33 16 31,25	20 17 14,75	11 59 16,50	44,74	0,62	* Navis.
	33 37 05,88	20 37 49,44	11 59 16,44	44,74	0,59	β } Navis
	33 9 17,25	21 9 59,81	11 59 17,44	44,74	1,09	β } Navis
	9 9 17,25	21 8 29,0	11 59 11,75	44,74	1,75	β Navis
— 13	33 7 46,0	21 8 29,0	11 59 17,0	44,55	0,78	β } Navis
	33 38 32,75	21 39 15,50	11 59 17,25	44,55	0,90	β } Navis
— 18	1 17 40,97	13 16 55,56	11 59 14,59	44,90	0,26	* Eridani

The mean of all the Observations of Achernar is $0^{\circ},536$, of β Navis $0^{\circ},587$, of γ Navis $0^{\circ},453$, Canopus gave $0^{\circ},46$, α Centauri $0^{\circ},09$, δ Navis $0^{\circ},59$, and ν Navis $0^{\circ},9$; and hence the angle under which the instrument cut the meridian at the zenith will be $6^{\circ}\frac{1}{2}$, $4^{\circ}\frac{1}{2}$, $5^{\circ}\frac{1}{2}$, 7° , 1° , $8^{\circ}\frac{1}{2}$, and $8^{\circ}\frac{1}{2}$ respectively; the mean of all which is $6'$ of a degree, and so much the Northern semi circle of the vertical, wherein the instrument moved was to the Eastward of the true meridian Mr Bayley remarks that the instrument was carefully kept to two marks, one about a mile and quarter off to the Northward, and the other to the Southward, at about the distance of four miles and an half, from which it seldom deviated the breadth of one of the wires.

ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Meridian Zenith Distances of the Sun, Moon, and Stars, for determining the Latitude.

1773.	Zenith Distances.		Exterior Arch reduced.	Barom.	Therm.		Latitude deduced.	Phenomena.
	Interior Arch.	Exterior Arch.			In.	Out.		
		G S V						
4 April 29.	55 50 0							
	55 18 20	58 3 30+	4 55 18 12	30,18	62	54	41 5 46,4	☉'s L. L.
	31 6 42	33 0 24	0 31 6 48	30,04	52	47	41 5 36,4	☉'s U. L.
	61 26 3	65 2 4	5 61 26 3	30,04	52	47	41 5 31,2	Spica Virginis.
5 May 1.	56 26 23	60 0 26	0 56 26 25½					Arcturus.
	55 54 27			30,35	67	59	41 5 24,5	☉'s L. L.
								☉'s U. L.
	51 3 29	51 1 27+	6 51 3 31½	30,32	57	53		{ ☉'s L. L. 20" after
☉ — 2.	56 44 30							{ Transit.
	56 12 27	59 3 26+	10 56 12 32	30,05	56	54½	41 5 30,2	☉'s L. L.
☉ — 4.	57 20 3							☉'s U. L.
	56 47 53	60 2 11	0 56 47 57½	29,96	71	59½	41 5 45,4	☉'s L. L.
☉ — 5.	57 37 22							☉'s U. L.
	57 5 32	60 3 19	6 57 5 26	29,70	64	57	41 5 41,8	☉'s L. L.
								☉'s U. L.
	32 45 35	34 3 24+	20 32 45 33	29,92	49	46		{ ☉'s L. L. 20" after
	61 26 26	64 2 5	13 61 26 21	29,90	47	45	41 5 55,1	{ Transit.
	49 21 40	52 2 19+	24 49 21 27	29,90	47	45	41 5 38,6	Arcturus.
☉ — 6.	57 54 4							* Aquilæ.
	57 22 0	61 0 24+	13 57 22 1	30,27	65	54	41 5 40,7	☉'s L. L.
	56 54 40	60 2 26	0 56 54 27	30,30	49	50	41 5 46,5	☉'s U. L.
	80 24 44	85 3 5	0 80 24 45	30,31	48	49	41 6 8,5	☉ Leonis.
	61 26 16	65 2 4	0 61 26 8½	30,31	48	49	41 5 4,45	{ Achernar below the
	28 42 33	30 2 16	c 28 42 39½	30,32	49	49		{ Pole.
☉ — 7.	58 10 20							Arcturus.
	57 39 10	61 2 0	18 57 39 4½	30,31	65	56	41 5 42 3	{ ☉'s L. L. 19" after
☉ — 8.	58 26 26							{ Transit of 1st L.
	57 55 15	61 3 4	0 57 55 12	30,06	66	57½	41 5 25,2	☉'s L. L.
	61 26 17	65 2 4	c 61 26 8½	29,98	55	56	41 5 41,9	☉'s U. L.
	68 32 27	73 0 15	8 68 32 42½	29,98	55	56	41 5 34,8	☉'s L. L.
☉ — 9.	58 43 14							☉'s U. L.
	58 11 16	62 0 9	11 58 11 16	30,04	64	58½	41 5 46,0	Arcturus.
	56 54 40	60 2 26+	5 56 54 38	30,06	60	56	41 5 49,3	* Cor. Borealis.
	10 44 21	22 0 15+	25 10 44 30½	30,06	51½	51½	41 6 2,7	☉'s L. L.
	17 20 45	18 2 0+	5 17 20 42½	30,06	51½	51½	41 6 6,0	☉'s U. L.
	80 24 48	85 3 3+	10 80 24 45½	30,06	51½	51½	41 6 13,0	☉ Leonis.
	18 46 57	20 0 5	6 18 47 7	30,06	51½	51½	41 6 10,2	{ Crucis.
	23 24 18	24 3 28	6 23 24 23½	29,95	53	53		{ Achernar, below the
								{ Pole.
								* Centauri.
								{ ☉'s L. L. 20" before
								{ transit of her latter L.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Zenith Distances			Exterior Arch reduced	Barom	Therm		Latitude deduced	Phenomena
	Interior Arch	Exterior Arch				Lat	Our		
	° ' "	G S V	° ' "					° ' "	
May 10	58 59 23								
	58 27 12	62 1 13	12	58 27 4½	29,81	70	58½	41 5 53,4	O s L L O s U L
	24 18 16	25 3 22	5	24 18 21½	29,90	48	48½		{ s L L 24 before transit of her latter L
— 11		63 0 24	11	59 14 7	30,10	48	54	41 5 49,6	O s L L O s U L
	58 43 5	62 2 17	0	58 43 6					{ s L L 22 before transit of her latter L
	26 18 54	28 0 9	0	26 18 57	30,30	45	44		
— 12	59 29 33				30,30	56	53	41 5 40,3	O s L L O s U L
	58 57 41	62 3 18	10	58 57 46					{ s L L 24~ before transit of her latter L
	29 9 13	31 0 13	10	29 9 18	30,10	45½	45		
— 13	59 44 32				30,18	62	54	41 5 32,0	O s L L O s U L
	59 12 18	62 0 20	10	59 12 22½					O s L L O s U L
— 14	59 59 14	63 3 30	0	59 59 7	30,29	64	54½	41 5 41,6	O s L L O s U L
	59 27 28	63 1 22	8	58 27 21					{ s L L the Pole
	17 20 36	18 2 0	0	17 20 37½	30,30	49½	49	41 6 11	{ s L L 23~ before transit of her latter L
	11 12 18	11 3 26	0	11 12 22	30,30	49½	49	41 5 50½	
	80 24 45	85 3 3	0	80 24 45½	30,30	49½	49	41 6 9	
	18 9 46	19 1 16	0	18 9 50½	30,30	49½	49	41 6 0	
— 15	60 13 36	64 0 31	0	60 13 37½	30,20	64	58	41 5 44	O s L L O s U L
	59 41 24	63 2 22	0	59 41 32½					
— 17	48 4 10	51 1 4	18	48 4 16	29,48	42½	43		

The mean of all these Latitudes, Mr Bayley makes $41^{\circ} 5' 47\frac{1}{2}$ South. If a mean of the 24 Observations of the Sun and Stars, to the Northward of the zenith, be taken, and also of the nine Observations of Stars to the South of the zenith, and then a mean of these two means be taken for the Latitude, it will be found $41^{\circ} 5' 53\frac{1}{2}$ South.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock.	Distance of the ☉'s and ☽'s Limbs.	Zenith Distance ☉'s U. L.	Altitude of ☽'s U. L.	Barom.	Therm.		Longitude East.	Remarks.		
	H	° ' "	° ' "	° ' "		Lat.	Our.				
4 April 29.	5 32 20 35 46 38 35	79 52 30 52 50 53 40	70 16 50 70 46 50 71 11 12	23 34 23 45 24 15	30.14	53	50	174 14 0	Hazy.		
5 May 1.	6 37 22 41 24 44 54	— 4 30 104 35 30 104 36 34 104 37 20	79 59 40 80 37 35 81 12 30	23 28 24 3 24 32	Errors of the Quadrants.				Clear, and the Objects distinct.		
					Errors as above.						
		Supplemental Distance ☉ and ☽'s L.	Zenith Distance ☽'s U. L.	Alt. of the ☉'s L. L.							
8.	22 58 26.8 23 11 30½ 23 22 18	30 37 0 30 42 53 30 49 31	75 42 49 77 57 14 79 49 47	7 56 9 58½ 11 36½	30.01 30.01 30.01	56	52½		Mean of 5 Obs. Mean of 4. Mean of 4.		
		— 58		+ 2½	Errors of the Quadrants.						
9.	23 30 7.8 23 44 22.8 23 55 30½ 0 4 50 0 13 45½	44 32 44 44 39 34 44 45 46 44 50 29 44 56 17½	70 2 49 72 35 46 74 36 28 76 14 57 78 7 0	12 13½ 14 18½ 15 52 17 9 18 30½	29.95 29.95 29.95 29.95 29.95	61	57½		Mean of 5 Obs. Ditto of 5. Ditto of 4. Ditto of 4. Ditto of 4.		
		— 1 00		+ 2½	Errors of the Quadrants.						
10.	0 35 30.8 0 47 12 0 56 39½ 1 4 48 1 13 39	58 18 27 58 24 31 58 30 1½ 58 34 36 58 39 16	72 40 4 73 47 12 75 24 2 76 51 32 78 25 44	20 44½ 22 0½ 23 3½ 23 54½ 24 50	29.82 29.82 29.82 29.82 29.82	64	56		Mean of 5 Obs. Ditto of 4. Ditto of 4. Ditto of 4. Ditto of 4.		
		— 1 0		+ 2½	Errors of the Quadrants.						
		Dist. ☉ and ☽'s nearest Limbs.	Zenith Distance ☽'s U. L.	Altitude of ☉'s L. L.							
11.	23 35 9 37 38 39 46 42 11 44 17 46 3.	109 30 45 29 42 29 0 28 30 27 22 26 37	61 35 56 52 2 41 52 25 7 52 51 16 53 13 43 53 32 36	11 58 12 18 12 37 12 57 13 15 13 31	30.07	54	47	173 58 1½	Very clear.		
		4. 19½		+ 2 50							

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place

1773	Time by the Clock	Distance of the ☉ and ☽ s Limbs	Zenith Distance ☽ s U L	Altitude of ☉ s L L	Barom	Therm Latent ☉	Longitude East	Remarks
	H	° "	° "	° "			"	
♂ May 11	23 48 02	109 25 54	53 54 28	13 49				
	50 17	25 30	54 18 53	14 7				
	52 43	23 58	54 45 10	14 28				
	55 20	21 56	55 13 24	14 50	30,07	54 47	174 2 46½	
	57 34	22 15	55 37 26	15 9				
	0 0 11	20 25	56 5 27	15 31				
	0 2 49	109 20 0	56 34 19	15 52				
	5 6	18 58	56 59 40	16 12				
	7 30	18 10	57 25 30	16 32	30,07	54 47	173 53 33	
	10 7	16 42	57 54 21	16 51				
	12 13	14 50	58 16 42	17 10				
	14 30	14 0	58 41 33	17 28				
	0 17 10	109 13 6	59 10 47	17 48				
	19 49	12 22	59 40 0	18 8				
	22 10	10 50	60 5 58	18 27	30,07	54 47	173 38 36	
	24 24	9 52	60 30 20	18 46				
	26 55	8 20	60 57 42	19 5				
	29 20	7 25	61 24 20	19 23				
		— 4 19½		+ 2 50"	Errors of the Quads,			
♂ — 12	23 32 42	97 8 25	44 7 22	10 58				
	35 21	7 18	32 38	11 21				
	37 57	5 54	57 26	11 43	30,25	54 54½	174 19 10	
	40 45	4 52	45 45 56	12 6				
	43 2	4 0	48 30 12	28	Errors as above			
♀ — 14	2 28 21	72 50 40	52 21 32	24 22				
	33 27	49 10	53 9 20	24 50				
	37 8	48 40	53 44 36	25 8	30,31	47 48	174 11 30	
	40 0	47 26	54 9 56	25 24				
	42 26	45 36	54 34 28	25 37				
	2 44 55	72 44 50	54 58 30	25 48				
	50 49	42 40	55 57 0	26 18	30,31	47 48	173 51 51	
	54 2	41 34	6 30 35	26 32				
	57 26	40 0	57 25 24	26 55				
					Errors as before			

During all these Observations, the air was clear, and the objects very distinct

• • The height of the eye, above the sea, was, at a medium, 85 feet.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations of different Sorts for the Longitude of the Place.

1773. 24 May 6.	Jupiter's 2d satellite immersed at 19 h. 52' 57" by the Clock, or at 17 h. 10' 23' 6" apparent time. At the time of this Observation, the air was very clear, and the limbs of the planet, as well as its belts, exceedingly distinct and well defined; the magnifying power used was 150 times.
8 — 12.	<p>Aquarii immersed behind the Moon's bright limb at 19 h. 11' 16" $\frac{1}{2}$, or at 15 h. 54' 45" apparent time: the magnifying power used was 90 times.</p> <p>Emerſion from the dark limb at 20 h. 33' 58" $\frac{1}{2}$, or 17 h. 16' 58" $\frac{1}{2}$ apparent time. These Observations also are very good, the air being very clear, and the objects distinct and well defined: the same magnifying power was used as at the immersion.</p>

Observations for the Dip of the Magnetic Needle.

1773.	Face of the Instru- ment.		After changing the Poles of the Needle.		Mr. Bayley had here the same troublesome business with his dip- ping needle that we had at the Cape of Good Hope: for he remarks, that after labouring a whole day to ba- lance it, he found himself just where he began, and that he balanced it, after all, by discharging the magne- tism, and adjusting the needle to an equilibrium, first, in an horizontal position, by means of the balls which are on the wires, that have the same direction with the needle, and then in a vertical position, by means of those which are on the wires at right angles to it. The mean of all the dips, before the poles were changed, is $64^{\circ} 53' 8''$; the mean of all afterwards $64^{\circ} 35'$: the mean of both is $64^{\circ} 44'$.
	East.	West.	Face of the Instru- ment.		
	°	°	East.	West.	
	64 35	64 30			
	65 0	64 45			
	64 49	64 46	64 21	64 36	
	64 52	64 25	64 37	64 15	
	64 54	64 35	64 32	64 20	
	64 37	65 1	64 20	64 27	
	65 3	65 0	64 29	64 39	
	64 45	65 0	64 50	64 26	
	64 45	64 43	64 54	64 49	
	64 30	64 35	64 45	64 52	
	64 25	64 36	64 19	64 50	
	64 50	64 32	64 22	64 28	
	64 53	64 54	64 40	64 41	
	64 35	64 37	64 47	64 40	
	65 0	65 0			
	64 47	64 43			

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations for the Variation of the Compass

1773	Zenith Distance O S U L	Azimuth of the O S center	Vari- ation East
	o ' "	o	o ' "
○ May 2	80 30 32	N 46 30 E	
	79 55 4	46 18	
	79 31 52	45 25	
	79 14 3	45 8	13 24 $\frac{1}{2}$
	78 58 37	45 2	
	78 40 31	44 57	
	78 22 5	44 51	
7 — 8	80 6 36	N, 43 40 E	
	79 37 36	43 25	
	79 18 24	43 15	
	79 3 35	42 50	13 08 $\frac{1}{2}$
	78 42 48	42 35	
	78 20 10	42 0	
	78 7 0	41 55	
8 — 19	76 0 0	N 34 15 E	
	75 40 38	34 0	13 16
	75 27 15	33 40	
24 — 20	75 47 38	N 61 15 W	
	76 6 40	61 20	
	76 37 10	61 26	
	76 51 50	61 47	
	77 10 15	61 54	
	77 29 20	63 0	
	77 43 0	63 25	13 40 $\frac{1}{2}$
	77 59 40	63 36	
	78 24 18	64 06	
	78 35 20	64 15	
	78 56 20	65 0	
	79 15 25	65 20	
	79 37 15	65 40	
	80 0 0	65 45	

The following Variations were obtained by placing the Compass in the meridian, and turning its index to the Northern and Southern meridian marks alternately

Vari- ation East	Vari- ation East	Vari- ation East	Vari- ation East
o ' "	o ' "	o	o
13 30	13 45	13 40	13 50
13 35	13 46	13 35	13 53
14 0	13 25	13 40	13 47
13 44	13 20	13 17	13 44
13 40	13 42	13 19	13 40
13 30	13 50	13 42	13 20
13 35	13 45	13 27	13 27
13 37	13 30	13 29	13 42
13 47	13 29	13 36	13 29
13 50	13 41	14 08	13 19
13 27	13 37	13 46	13 48
13 19	13 35	13 40	13 50
13 15	13 38	13 35	13 41

The mean of all these gives the variation
13° 38 $\frac{1}{2}$ E

By Observations of Amplitudes

1773	Amplitude of the O S center	Vari- ation East
	o	o
2 May 7	N 54 3 E	13 25 $\frac{1}{2}$
8 — 12	52 20	13 18
24 — 13	52 0	13 18
8 — 14	51 44	13 39
8 — 18	50 15	13 25 $\frac{1}{2}$
8 — 19	50 05	13 17
24 — 20	49 55	13 09

The mean is 13 21 $\frac{1}{2}$

And the mean of all gives the variation of
the Compass 13° 31 16 East

Obser ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations on the Tides.

1773.	Time by the Clock	Appa- rent Time.	Height of the Water.		Remarks.	1773.	Time by the Clock	Appa- rent Time.	Height of the Water.		Remarks.
			H.	F.					H.	F.	
D May 3.	21 15		3	6 $\frac{1}{4}$	Wind still, and water smooth.	8 May 5.	0 0		4	4	Low Water.
	21 20		3	6 $\frac{1}{4}$			0 10		4	3	
	21 30		3	7 $\frac{1}{2}$			0 20		4	2	
	21 35		3	7,7			0 30		4	1	
	21 40		3	7,8			0 40		3	11	
	21 45		3	7,8		21 — 6.	10 50		4	1 $\frac{1}{4}$	Calm, and the Water smooth.
	21 50		3	7,8			11 0		4	2	
	21 55		3	7,8			11 10		4	2 $\frac{1}{2}$	
	22 0		3	7 $\frac{1}{2}$			11 20		4	3	
	22 10		3	7			11 30		4	3	
	22 20		3	6 $\frac{1}{4}$			11 35		4	3,2	
8 — 7.	9 30		3	9	Weather as above.	11 40		4	3	Below 0.	
	9 35		3	10		11 50		4	2 $\frac{1}{2}$		
	9 55		3	10,5		12 0		4	1 $\frac{1}{2}$		
	10 0		3	10 $\frac{1}{4}$		Low Water,	0	1			
	10 10		3	11		23 30		4	2 $\frac{1}{2}$	Calm, and the Water smooth.	
	10 20		3	11 $\frac{1}{2}$		40		4	3		
	10 30		3	11		50		4	4		
	10 40		3	11		0 0		4	4		
	10 45		3	10		10		4	4		
	10 55		3	9		20		4	4		
	21 50		4	2		30		4	3 $\frac{1}{2}$		
	22 0		4	3	40		4	2 $\frac{1}{2}$	Below 0.		
	22 7		4	3,7	9 — 7.	Low Water,	0	2 $\frac{1}{2}$			
	22 15		4	4,1		11 35		4		5 $\frac{1}{2}$	
	22 20		4	4,5		11 45		4		6 $\frac{1}{2}$	
	22 25		4	4,5		11 50		4		7	
	22 35		4	4,5		12 0		4	7 $\frac{1}{2}$	Fine weather, and the water still.	
	22 45		4	4,5		12 10		4	7 $\frac{1}{2}$		
	22 50		4	4,0		12 25		4	7 $\frac{1}{2}$		
	22 55		4	3,7		12 30		4	7 $\frac{1}{2}$		
	23 5		4	3,0		12 40		4	7 $\frac{1}{2}$		
	23 15		4	2,0		12 45		4	7		
9 — 5.	22 30		3	11 $\frac{1}{4}$		12 50		4	6 $\frac{1}{2}$	Below 0.	
	22 45		4	0 $\frac{1}{2}$		13 0		4	5 $\frac{1}{2}$		
	22 50		4	1		Low Water,	0	3			
	23 10		4	1 $\frac{3}{4}$		Strong wind, and much swell.	0 5		4	7 $\frac{1}{2}$	Weather, &c as above.
	23 15		4	2 $\frac{1}{4}$			0 20		4	8 $\frac{1}{2}$	
	23 25		4	3 $\frac{1}{4}$			0 25		4	9	
	23 30		4	4			0 30		4	9 $\frac{1}{2}$	
	23 40		4	4			0 40		4	9 $\frac{1}{2}$	
	23 50		4	4							

ASTRONOMICAL OBSERVATIONS

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Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations on the Tides

1773	Time by the Clock	Apparent Time	Height of the Water		Remarks	1773	Time by the Clock	Apparent Time	Height of the Water		Remarks
			F	I					F	I	
2 May 7	0 50		4	9 $\frac{1}{2}$		0 May 9	2 40		4	7 $\frac{1}{2}$	
	1 0		4	9			2 50		4	7 $\frac{1}{2}$	
	1 10		4	8 $\frac{1}{2}$			3 0		4	6 $\frac{1}{2}$	
	1 20		4	7 $\frac{1}{2}$			3 5		4	5 $\frac{1}{2}$	
	Low Water		4	4 $\frac{1}{2}$	Below 0		Low Water		0	0 $\frac{1}{2}$	Below 0
	12 30		4	9			Strong wind all night, and so high a sea that I could not come near the Instrument				
	12 40		4	10, 4			2 — 11	2 30		3	9
	12 50		4	11, 2				2 40		3	10
	13 10		5	1	Weather, &c as above			3 10		3	11 $\frac{1}{2}$
	13 15		5	1, 1				3 20		4	0
	13 25		5	1				3 30		4	0
	13 35		4	11, 2				3 40		3	11 $\frac{1}{2}$
	13 40		4	10, 4				3 50		3	10
	13 55		4	9				4 0		3	9
	Low Water		0	5 $\frac{1}{2}$	Below 0		Weather too bad to observe all night, and every day afterwards until the 15th				
1 — 8	1 0		4	4 $\frac{1}{2}$		2 — 15	5 40		2	10	
	1 10		4	6			5 55		2	10 $\frac{1}{2}$	
	1 20		4	7	Before these the Clock		6 10		2	10 $\frac{1}{2}$	
	1 30		4	7 $\frac{1}{2}$	had been put		6 20		2	11	Weather
	1 40		4	7 $\frac{1}{2}$	20 forward		6 40		2	11 $\frac{1}{2}$	fine and
	1 50		4	7			7 0		2	11 $\frac{1}{2}$	wind still
	2 0		4	5 $\frac{1}{2}$			7 20		2	11 $\frac{1}{2}$	
	2 10		4	5			7 30		2	11	
	Low Water		0	3, 4	Below 0		7 40		2	10	
	13 30		4	8 $\frac{1}{2}$		2 — 17	7 0		3	2	
0 — 9	13 40		4	9 $\frac{1}{2}$			7 10		3	4	Weather
	13 50		4	11			7 30		3	5 $\frac{1}{2}$	serene and
	14 0		4	11 $\frac{1}{2}$			7 40		3	5 $\frac{1}{2}$	quiet
	14 5		4	11 $\frac{1}{2}$			7 50		3	5 $\frac{1}{2}$	
	14 15		4	11 $\frac{1}{2}$			8 0		3	5 $\frac{1}{2}$	
	14 25		4	11 $\frac{1}{2}$			8 30		3	4	
	14 30		4	11 $\frac{1}{2}$			8 50		3	2	
	14 35		4	10 $\frac{1}{2}$			Low Water		0	0 $\frac{1}{2}$	
	14 40		4	9 $\frac{1}{2}$			21 30		3	9 $\frac{1}{2}$	
	14 50		4	9			21 42		3	10	
Low Water	Low Water		0	2 $\frac{1}{2}$	Below 0	21 50	21 50		3	10 $\frac{1}{2}$	
	1 50		4	6			22 0		3	11	
	2 0		4	6 $\frac{1}{2}$							
	2 10		4	6 $\frac{1}{2}$							
	2 20		4	7 $\frac{1}{2}$	Moderate weather						
2 30	2 30		4	7 $\frac{1}{2}$							

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations on the Tides.

1773.	Time by the Clock	Appa- rent Time.	Height of the Water.	Remarks:	1773.	Time by the Clock	Appa- rent Time.	Height of the Water.	Remarks.
	H	H	F. I.			H	H	F. I.	
17 May 17.	22 10		3 11	Weather	18 May 19.	0 30		4 11 $\frac{3}{4}$	
	22 20		3 11	calm and		0 50		4 11	
	22 30		3 10 $\frac{1}{4}$	serene: The		1 0		4 10	
	22 40		3 10	Moon above		1 10		4 9 $\frac{1}{4}$	
	22 50		3 9 $\frac{1}{4}$	the horizon.		1 20		4 8	
18 ——— 18.	Low Water.		0 2 $\frac{1}{4}$		20 ——— 20.	11 40		4 11 $\frac{1}{2}$	
	22 20		4 11 $\frac{1}{2}$			11 50		5 11 $\frac{1}{2}$	
	22 30		5 0 $\frac{1}{2}$			12 0		5 11 $\frac{1}{2}$	
	22 50		5 2 $\frac{1}{4}$	Weather		12 10		5 11 $\frac{1}{2}$	Weather
	23 0		5 3	good: Moon		12 20		5 11 $\frac{1}{2}$	calm, and
	23 10		5 3 $\frac{1}{2}$	above the		12 30		5 11 $\frac{1}{2}$	water undif-
	23 20		5 3 $\frac{1}{2}$	horizon.		12 40		5 1	turbed.
	23 30		5 3			12 50		5 0 $\frac{1}{2}$	
	23 40		5 2			13 0		5 0	
	23 50		5 0 $\frac{1}{2}$			Low Water.		0 1 $\frac{1}{2}$	
	0 0		4 11 $\frac{1}{2}$		23 50			4 10	
19 ——— 19.	Low Water.		1 4 $\frac{1}{4}$		0 0			4 11	
	22 40		4 8		0 10			4 11 $\frac{1}{2}$	
	22 50		4 9 $\frac{1}{4}$		0 15			4 11 $\frac{1}{2}$	Weather fine
	23 0		4 10	Water still;	0 20			5 0	and water
	23 20		4 11	Moon above	0 30			5 0	smooth:
	23 30		4 11 $\frac{1}{2}$	the horizon.	0 40			5 0	Moon above
	23 50		5 0 $\frac{1}{4}$		0 45			4 11 $\frac{1}{2}$	the horizon.
	0 0		5 0 $\frac{1}{2}$		0 50			4 11 $\frac{1}{2}$	
	0 10		5 0 $\frac{1}{2}$		1 10			4 10	
	0 20		5 0 $\frac{1}{4}$		21 ——— 21.	Low Water.		0 11 $\frac{1}{4}$	

Mr. Bayley made the preceding observations, by means of a glass tube of about $\frac{7}{8}$ of an inch internal diameter, with an exceeding small aperture at the bottom to admit the water; by which means, the surface of the water in the tube was rendered so steady, as not to alter $\frac{1}{8}$ of an inch when the swell of the sea was two feet. This tube was lashed fast to a ten-foot fir-rod, divided into feet, inches, and quarters. The rod was fastened to a strong post, fixed firm and upright in the water; and he is certain he could discern a difference of $\frac{1}{8}$ of an inch in the height of the water. Mr. Bayley has not deduced the apparent times from those by the clock; but it may be readily done from the preceding Observations of equal altitudes.

Observations by Mr. Baily, at Queen Charlotte's Sound, Continued

Computations of the Rates which the Clock C and Mr. Arnold's Watch, No. 1 went at

1773	Time by the Watch when compared	Time by Clock C when compared with the Watch	Clock faster than the Watch	Clock gains on Watch between Comparisons	Interval between the Comparisons	Watch loses on the Clock in 24 Hours	Clock loses on Syderial Time per Day	Watch loses on Syderial Time	Watch loses on true Time each Day
	H	H	H	"	H	"	"	"	"
April 20	11 2	2 37 30	15 9 36	2 50	23 25	2 54,35	1 27,0	1 21,55	24,85
21	10 48	2 0 36	12 26	2 50	24 44	2 44,92	1 29,0	13,92	17 42
22	11 32	2 47 16	15 16	2 50½	23 56	2 50,90	1 29,0	19 90	23 40
23	11 28	2 46 6½	18 6½	2 39½	23 18	2 44,29	1 29,0	13,29	16 19
24	10 46	2 6 46	20 46	2 45½	24 01	2 45,39	1 28,30	13 69	17 19
25	10 47	2 10 31½	23 31½	2 50	24 4	2 49,54	1 28,66	18,20	21 70
26	10 51	2 17 21½	26 21½	2 66½	24 22	2 53,0	1 29,25	22,25	25,75
27	11 13	2 54 18	41 18	2 50	23 43	2 52,0	1 28 58	20,58	24 08
28	10 56	2 40 8	44 8	2 51	23 56	2 51,46	1 28,58	20 0	23 50
29	10 52	2 38 59	46 59	2 49	23 52	2 49,90	1 29,39	18,29	21 79
30	10 44	2 33 48	49 48	2 51	24 6	2 50,30	1 28,22	18 52	22 02
May 1	10 50	2 42 39	52 39	2 48	23 58	2 48,22	1 28,22	16,44	19 94
2	10 48	2 43 27	55 27	2 54	23 55	2 54 60	1 28,79	22 39	25,59
3	10 43	2 41 21	58 21	2 54½	24 6	2 53 55	1 28,68	22,23	25,73
4	10 49	2 50 15½	16 1 15½	2 57	24 1	2 56,60	1 29,0	25,80	29,30
5	10 50	2 54 12½	4 12½	2 53	23 49	2 54 30	1 29,77	24 57	27 51
6	10 59	2 46 54	7 54	2 53½	24 5	2 53,15	1 29 74	22 9	26,59
7	10 44	2 53 59	9 59	2 54	23 54	2 54,72	1 29,1	24 20	27 70
8	10 38	2 50 53	12 53	3 3	24 5	3 02 40	1 28,73	51 13	34,65
9	10 43	3 18 56	35 56	3 2½	24 2	3 02 26	1 20 19	31,45	31 95
10	10 45	3 23 58½	38 58½	3 1½	23 55	3 01 60	1 29,19	30,79	34,29
11	10 10	3 22 0	42 0	2 49	23 59	2 49,12	1 29,67	18 79	22 29
12	10 39	3 23 49	44 49	2 54	24 6	2 53 28	1 29,57	22 85	26 35
13	10 45	3 32 43	47 43	2 50½	23 50	2 51,71	1 29,19	20 90	24,40
14	10 45	3 25 33½	50 33½	2 45½	24 10	2 44,59	1 41,32	25,91	29,41
15	10 45	3 38 19½	53 19½	3 01	25 20	2 51,40	1 29,18	20 58	24 08
16	12 05	5 1 20½	56 20½	2 52½	23 15	2 57 97	1 29,18	27,15	30,6
17	11 20	4 19 13	59 13	2 47	23 43	2 48,97	1 29,36	18,33	21,83
18	11 03	4 5 0	17 2 0	2 39	23 30	2 42,48	1 29,90	12,36	15 18
19	10 33	3 37 39	4 39	3 04	25 52	2 50 70	1 30,10	20 80	4,30
20	12 25	5 42 43	7 43						

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations made on Board the Ship, with Hadley's Quadrant.

1773.	Time by No. 1.	Altitude of the \odot 's L. L.	Error of the Quadrant.	Barom.	Thermoms.		Watch flow of mean Time.	Watch loses on mean Time.	
	H " "	" " "	" " "		C.	D.	H " "	"	
h May 29.	6 32 2 $\frac{1}{2}$	7 14 45	— 1 45	29,7	53	48	13 32 58,3	33,75	12
d — 31.	6 27 22	6 31 15 $\frac{1}{2}$	— 4 49	30,0	61	57	13 34 05,8	28,90	11
h June 2.	6 31 41 $\frac{1}{2}$	7 5 20 $\frac{1}{2}$	— 7 27	30,2	62	52	13 35 03,6	37,0	12
o — 6.	6 48 25	9 24 54	— 12 22 $\frac{1}{2}$	30,3	60	52	13 36 54,6		12

Mr. Bayley, by including these with the preceding computations of the Watch's rate of going, concludes that its mean rate of losing, while here, was $25^{\prime\prime}\frac{1}{2}$ a day on mean time. He farther computes that the Watch was 13 h. 28' 51 $\frac{1}{2}$, too slow for mean time on Thursday, May the 20th, at noon.

He also makes his Clock to have lost at the rate of $1^{\circ} 29^{\prime\prime},003$ a day on syderial time; in which computation he rejects its loss between the 14th and 15th of May. It was set up in the same manner as at the Cape, and the bob of the pendulum was 84, 2 feet above the surface of the sea at low water. The pendulum, when first set agoing, vibrated only $1^{\circ} 50'$ on each side of \odot , but increased its arcs of vibration until the 26th of April, when it swung $1^{\circ} 53'$ each way, and on May 15th it had increased to $1^{\circ} 54'$. Length of the pendulum the same as at Greenwich.

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Time by Mr. Kendall's Watch.			Zen ith Distance.	Time of ap- parent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" " "	H " "	" " "		H " "	
o May 23.	57 48 $\frac{1}{2}$	10 1 58	6 14	69 0 0	12 16 35,3	\odot 's U. L. } Easterly.
d — 24.	2 54	7 11	11 30			\odot 's L. L. }
	30 0 $\frac{1}{2}$	14 25 44	—	69 0 0		\odot 's L. L. } Westerly.
	35 5	30 56	—			\odot 's U. L. }
h — 29.	8 04	10 12 37 $\frac{1}{2}$	17 10 $\frac{1}{2}$	69 0 0		\odot 's U. L. } Easterly.
	13 35 $\frac{1}{2}$	18 9 $\frac{1}{2}$	22 52			\odot 's L. L. }
o — 30.	22 27	14 17 48 $\frac{1}{2}$	13 8 $\frac{1}{2}$	69 0 0	12 18 07,95	\odot 's L. L. } Westerly.
	27 55 $\frac{1}{2}$	23 26	18 53			\odot 's U. L. }

Observations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Time by Mr Kendall's Watch			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	"	H	"	"	H	
8 June 2	10 52 $\frac{3}{4}$	10 15 23 $\frac{3}{4}$	20 02	69 20 0		O S U I } Easterly
	16 22 $\frac{1}{4}$	21 6	25 55 $\frac{1}{4}$			O S I L }
21 — 3	22 6 $\frac{1}{4}$	14		69 20 0	12 19 20,71	O S I I } Westerly
	27 37	14 23 06	18 27			O S U L }

* * It appears from the above Observations, that Mr Kendall's Watch was gaining now at the rate of 9 $\frac{1}{2}$,05 a day on mean time and by comparing it with Mr Arnold's, (No 3) the latter appears to have lost, while here at the rate of 1 34 $\frac{1}{2}$,158

Observations for the Variation of the
Compass

1773	Zenith Distance of the O S L L	Azimuth of the O S center	Variation East
8 May 21	71 49 0	N 21 45 L	14 14
	71 26 45	24 15	14 02 $\frac{1}{2}$
	71 9 30	23 40	14 05
	70 52 15	23 05	14 08
	70 36 45	22 15	14 29
	70 16 15	21 35	14 28
	Mean of all is		14 14 35

Observations for the Dip of the Needle

1773	Inclination of the Instru- ment		
	East	West	
8 May 21	65 10	65 5	Means
	65 20	65 15	
	65 0	64 50	
	65 10	65 04 $\frac{1}{2}$	
21 June 3	Changed the Poles		Means
	64 0	64 05	
	64 15	64 30	
	63 55	64 25	
	64 0	64 20	
So End	64 07	64 20	Means
	64 39	Mean of all	

I made the preceding Observations on the open beach, at a place which bears S 81 $^{\circ}$ 10 W by compass, from Mr Bayley's Observatory Sound passed from one place to the other exactly in 10 s perhaps $\frac{1}{4}$ th of a second may be added, on account of the time lost in letting go the Watch Two guns were fired at each place, and the times noted at the other, between seeing the explosion and hearing the report, none of which differed sensibly from another These experiments were made on a very calm evening, a little after sun setting, the Barometer standing at 30,32 and the Thermometer at 52 $^{\circ}$

Observations made at Point Venus, in Otaheite.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	H " "	" "	" "	h " "	
4 Aug. 26.	20 13 $\frac{1}{2}$	6 20 10 $\frac{1}{2}$	24. 6 $\frac{1}{2}$	65 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
27.	22 37	24 34	26 29 $\frac{1}{2}$			
	24 42 $\frac{1}{2}$	14 22 44 $\frac{1}{2}$	21 48 $\frac{1}{2}$	65 20 0	10 23 33,21	☉'s L. L. } Westerly. ☉'s U. L. }
	27 07 $\frac{1}{2}$	25 09 $\frac{1}{2}$	23 13			
	50 47 $\frac{1}{2}$	5 52 42	54 40 $\frac{1}{2}$	72 20 0		☉'s U. L. } Easterly. W. B. ☉'s L. L. }
	53 7 $\frac{1}{2}$	55 6 $\frac{1}{2}$	57 0 $\frac{1}{2}$			
28.	58 35 $\frac{1}{2}$	14 56 39 $\frac{1}{2}$	54 44 $\frac{1}{2}$	72 20 0	10 25 45,41	☉'s L. L. } Westerly. W. B. ☉'s U. L. }
	0 55 $\frac{1}{2}$	58 59 $\frac{1}{2}$	57 5 $\frac{1}{2}$			
29.	39 17	6 41 15	43 11	62 5 0		☉'s U. L. } Easterly. W. B. ☉'s L. L. }
	41 42	43 39 $\frac{1}{2}$	45 38.			
30.	18 43	14		62 5 0	10 30 05 $\frac{1}{2}$	☉'s L. L. } Westerly. W. B. ☉'s U. L. }
	21 6 $\frac{1}{2}$	14 19 8 $\frac{1}{2}$	17 12:			
	4 19 $\frac{1}{2}$	6		70 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
	13 6 $\frac{1}{2}$	6 8 34	10 28 $\frac{1}{2}$			
	15 27	6 15 01	16 55	68 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
	11 20 $\frac{1}{2}$	17 22 $\frac{1}{2}$	19 16 $\frac{1}{2}$			
	13 49	7 13 21 $\frac{1}{2}$	15 21	55 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
31.	50 54	13		55 20 0	10 32 14,51	☉'s L. L. } Westerly. ☉'s U. L. }
	53 24	13 51 22 $\frac{1}{2}$	49 22			
	49 14 $\frac{1}{2}$	14 47 19 $\frac{1}{2}$	45 25	68 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
		49 40 $\frac{1}{2}$	47 46 $\frac{1}{2}$			
		14 56 6	54 11	70 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
	0 22					

Observations on Point Venus, in Otaheite, Continued

	1773	Comparisons of the two Clocks with each other					
		Clock B			Clock C		
24 Aug	26	6	38	0	6	37	56
25	27	11	10	$11\frac{1}{2}$	11	10	0
		14	28	$17\frac{1}{2}$	14	28	0
		5	58	45	5	58	0
26	28	10	43	$53\frac{1}{2}$	10	43	0
		15	2	$0\frac{1}{2}$	15	1	0
		6	15	$27\frac{1}{2}$	6	14	0
27	29	10	57	$86\frac{1}{2}$	10	56	0
		6	31	$10\frac{1}{2}$	6	29	0
28	30	10	59	19	10	57	0
		14	22	$24\frac{1}{2}$	14	20	0
		6	31	53	6	29	0
29	31	10	44	$0\frac{1}{2}$	10	41	0
		15	12	$8\frac{1}{2}$	15	9	0

Computations of the going of the two Clocks

1773	Time of ap- parent Noon by Clock B	Syderal Time of ap- parent Noon	Clock fast or slow of Syderal Time	Clock B loses on Sy- deral Time	Time by B of comparing the Clocks	Time by C of com- paring the Clocks	Time past Noon by B when com- pared	B before C at Noon	B gains on C each Day	C loses on Sy- deral Time
	H	H			H	H				
27 Aug	10 23 33 21	10 23 01 5	+0 31 71	1 27 20	11 10 11 75	11 10 00	46 38 54	0 10 38	0 42 34	1 9 54
28	25 45 41	26 40 9	-0 55 41	1 28 91	10 43 53 25	10 43 00	18 7 84	0 52 72	0 42 70	2 11 01
30	30 05 13	33 58 65	-3 53 32	1 29 15	10 59 19 00	10 57 00	29 13 67	2 18 13	0 41 78	2 10 93
31	32 14 51	37 36 98	-5 22 47		10 44 00 25	10 41 00	11 45 74	3 59 91		
			Mean	1 28 42					Mean	2 10 69

The clocks were fixed up, as usual, by means of the iron block and frame, and stood both in one tent. The pendulums of the same length as at Greenwich, that of B vibrated over an arch of $1^{\circ} 37\frac{1}{2}$ each way from the perpendicular for the first two or three days, and afterwards over an arch of $1^{\circ} 40$. C varied its vibrations from $1^{\circ} 45$ on each side to $1^{\circ} 48$, and back again to $1^{\circ} 45$. The times of equal altitudes were always noted by B, and C compared with it in the same manner as the watches were.

Observations on Point Venus, in Otaheite, Continued.

Computations of the going of Mr. Kendall's Watch.

		Time of apparent Noon by Clock B.	Time by Clock of comparing the Watch.	Time past Noon by the Clock.	Clock's gain on the Watch.	Time past Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch too slow for mean Time.	Watch gains on mean Time.
		H "	H "	" "	" "	H "	H "	H "	H "	H "	" "
♀ Aug.	27.	10 23 33,21	10 49 41,25	26 08,04	2,54	0 26 05,50	10 37 0	10 10 54,50	0 1 16,9	13 50 22,40	
♂ —	28.	25 45,41	11 6 2,75	40 17,34	3,92	0 40 13,42	10 51 0	10 10 46,58	0 0 59,8	13 50 13,22	9,18
♂ —	30.	30 05,33	10 41 38,50	11 33,17	1,10	0 11 32,07	10 22 0	10 10 27,93	0 0 24,5	13 49 56,57	8,31
♂ —	31.	32 14,51	11 2 58,75	30 44,24	2,95	0 30 41,29	10 41 0	10 10 18,71	0 0 06,2	13 49 47,49	9,08
										Mean	8,86

Computations of the going of Mr. Arnold's Watch, (No. 1.) W. B.

[illegible]

Observed Zenith Distances of the Sun and Stars for finding the Latitude.

the Sun and Stars for finding the Latitude.											
1773.	Zenith Distances.						Barometer.	Thermometers.		Phenomena and Remarks.	
	Interior Arch.			Exterior Arch.				In Tent.	Out.		
	G.	S.	V.	+							
♂ Aug. 29.	26	36	22	28	1	17	8				
♂ — 30.	56	2	46	59	3	5	22	30,20	82½	90	☉'s U. L. on the meridian.
♂ — 31.	39	56	25.	42	2	14	12	30,15	71	70	☉'s L. L. on the meridian.
	26	25	42	28	0	25	10	30,15	70½	69	☉'s L. L. on the meridian.
	30	13	47	32	1	0	6	30,16	84½	93	☉'s L. L. on the meridian.
	56	3	40	59	3	7	10	30,09	75½	75½	☉'s L. L. on the meridian.
	39	56	22	42	2	13	26	30,08	75½	73½	☉'s L. L. on the meridian.
								30,09	73½	71½	☉'s L. L. on the meridian.

Observations on Point Venus, in Otahite, Continued

Observations for the Longitude of the Place

1773	Time by the Clock B	Altitude of the \odot s L L	Zenith Distance of the \odot s U L	Distance of the \odot and \odot s Limbs	
	H	°	°	°	
27 Aug	14 41 14	20 33	47 52	116 12 0	Longitude $210^{\circ} 45'$ full
	14 43 21	20 4	47 23	12 0	
	14 45 45	19 31	46 48½	12 45	
	14 47 6	19 14	46 31½	13 0	
	14 48 12	18 59	46 19	13 0	
	14 49 13	18 45	46 04½	13 0	Longitude 210° 3 full W B
	Errors of the Quad	+ 1½	- 0½	- 1 0	
	14 54 04	17 36	44 55½	116 20 30	
	14 56 04	17 11	44 28½	21 10	
	14 57 09	16 57	44 13½	21 30	
	14 58 38	16 38	43 53	22 5	
	14 59 54	16 18	43 35½	22 20	
	15 01 03	16 04	43 20	22 45	
	Errors of the Quad	+ 1½	- 0½	- 3 42	

* * * The Moon's zenith distance was observed with the Astronomical Quadrant the Sun at altitude with an Hadley's Sextant Height of the eye above the sea 13 or 14 feet

1773

29 Aug

At 18 h 41 05 by the Clock, or 8 h 16 46, apparent time, the small β Capricorni precedes β Capricorni disappeared; the brightness of the Moon rendered the Star so faint that I was not absolutely certain it then immersed behind the Moon's Limb

At 18 h 50 50, or 8 h 26 30½ apparent time β Capricorni immersed behind the Moon's dark Limb; an exceeding good Observation

At 20 h 25 32, or 10 h 13 ½ apparent time, β Capricorni emerged very good also W B

Observations on Point Venus, in Otaheite, Continued.

Observations for the Variation of the Compass.

1773.	Zenith Distance o's U. L.	Azimuth of the o's center.	Vari- ation East.
Aug. 28.	78 43 $\frac{3}{4}$	N. 71 o E.	5 28 $\frac{1}{2}$
	78 22 $\frac{1}{2}$	70 50	
	77 50	70 35	
	77 32 $\frac{1}{2}$	70 10	
	77 15 $\frac{1}{2}$	70 05	
— 29.	71 41	N. 67 40 E.	6 09 $\frac{1}{4}$
	71 o	67 25	
	70 12	66 35	
	69 33 $\frac{1}{2}$	68 o	
	69 01 $\frac{1}{2}$	66 15	
	68 28 $\frac{1}{2}$	66 20	5 42 $\frac{1}{2}$
— 30.	74 18 L. L.	N. 69 55 E.	
	73 45 $\frac{1}{2}$	69 35	
	73 17 $\frac{1}{2}$	69 05	
	72 47	68 50	
	72 27 $\frac{1}{2}$	69 o	
	Altitude o's L. L.		
— 31.	4 57	N. 84 30 W.	5 41 $\frac{1}{2}$
	4 43	84 10	
	4 21	84 50	
	3 53	84 47	
	3 23	85 o	
	Zenith Dis- tance o's L. L.		
	78 58 $\frac{1}{2}$	N. 71 50 E.	5 44 $\frac{1}{2}$
	78 27 $\frac{1}{2}$	71 25	
	78 0 $\frac{1}{2}$	71 40	
	77 33 $\frac{1}{2}$	N. 71 25 E.	5 48 $\frac{1}{2}$
	77 14 $\frac{1}{2}$	71 5	
	76 55 $\frac{1}{2}$	70 50	
The mean is			5 39 $\frac{1}{2}$

Observations for the Dip of the Needle,
made by Mr. Bayley.

1773.	Face of the In- strument.		
	East.	West.	
	o	o	
8 Aug. 31.	28 30	29 15	
	28 27	28 45	
	28 14	28 47	
	28 20	29 0	
	28 37	28 50	
	28 15	28 37	
	28 35	29 0	
	29 05	29 35	
	29 02	28 52	
	28 45	29 0	
	28 50	29 0	
	29 0	29 27	
	28 38½	29 0½	Means.
Changed the Poles.			
30 15	29 50		
30 21	30 21		
30 02	30 48		
31 0	30 29		
30 56	30 56		
30 50	31 0		
31 0	31 10		
30 50	30 56		
30 0	30 30		
31 0	30 15		
30 15	30 25		
31 0	30 30		
	30 37½	30 35½	Means.
	28 38½	29 0½	{ Means bef. chang- ing the poles.
	29 38½	29 48½	Means of both.
	29 43½	Dip of the Needle's S. End.	

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock B	Apparent Time	Height of the Water	Remarks	1773	Times by Clock B	Apparent Time	Height of the Water	Remarks
	H	H	F			H	H	F	
h Aug 28	8 29		3 3 $\frac{1}{2}$	High Water in the Morn	h Aug 31	11 0		3 0	Low Water in the Evening
	8 37		3 4 $\frac{1}{4}$			11 30		3 4 $\frac{1}{4}$	
	8 40		3 4 $\frac{3}{4}$			11 40		3 5 $\frac{1}{4}$	
	9 07		3 4 $\frac{3}{4}$			11 50		3 4 $\frac{1}{4}$	
	9 18		3 4 $\frac{1}{2}$			16 12		2 5	
	9 57		3 3 $\frac{3}{4}$			16 22		2 5 $\frac{1}{2}$	
	10 06		3 3 $\frac{1}{2}$			16 32		5 $\frac{1}{2}$	
	10 27		3 3 $\frac{1}{4}$			16 45		5 $\frac{1}{2}$	
o — 29	15 32		2 3 $\frac{1}{4}$			16 49		5 $\frac{1}{2}$	
	15 35		2 3 $\frac{1}{2}$			17 0		4 $\frac{1}{2}$	
	15 46		2 3	Low Water in the Even		17 15		5	
	15 48		2 3 $\frac{1}{4}$			17 35		5	
	16 10		2 2 $\frac{3}{4}$						
	16 12		2 2 $\frac{1}{4}$						
	16 24		2 2 $\frac{1}{4}$						
	16 30		2 2 $\frac{1}{4}$						
	16 35		2 3						
	4 30		2 5						
	5 05		2 4						
	5 18		2 4 $\frac{1}{2}$						
	5 27		2 5	High Water					
	10 5		3 5 $\frac{1}{2}$						
	10 9		3 6 $\frac{1}{4}$						
	10 18		3 6 $\frac{1}{4}$						
	10 22		3 6						
o — 30	10 33		3 6 $\frac{1}{4}$						
	10 36		3 5 $\frac{1}{2}$						
	10 45		3 5						
	10 49		3 5 $\frac{1}{2}$						
	11 0		3 5						
	4 40		2 3 $\frac{1}{2}$	Low Water in the Morn					
	4 50		2 3 $\frac{1}{2}$						
	5 0		2 3 $\frac{1}{2}$						
	5 10		2 3 $\frac{1}{2}$						
	5 25		2 4 $\frac{1}{4}$						
	5 39		2 4 $\frac{1}{2}$						
	9 44		3 5 $\frac{1}{2}$						
	9 50		3 6 $\frac{1}{4}$						
	9 56		3 5						
	10 08		3 6 $\frac{1}{4}$						
h — 31	10 20		3 6 $\frac{1}{2}$	High Water					
	10 40		3 6 $\frac{1}{2}$						

The following Observations taken by myself and contribute towards determining the times of high water

1773	Times by Clock B	Apparent Time	Height of the Water	Number of Observations with Remarks
	H	H	F	
h Aug 28	6 48	0	5 5	1 W mean of
	7 17	0	4 9 $\frac{1}{2}$	Mean of 6 Obs
	7 56	0	4 8	Ditto of 5 ditto
	9 0	48	4 6	Ditto of 5 ditto
	10 2	30	4 4 $\frac{1}{2}$	11 W mean of 8
o — 29	10 57	10	4 6	Mean of 4 Obs
	11 31	6	4 8	Ditto of 6 ditto
			4 9 $\frac{1}{2}$	Ditto of 10 ditto
			5 7 $\frac{1}{2}$	11 W mean of 8
	6 51	30	5 6 $\frac{1}{2}$	Ditto, ditto of 5
	7 30	50	4 11 $\frac{1}{2}$	Mean of 6 Obs
	8 11	0	4 9	Ditto of 6 ditto
	10 21	49	4 6 $\frac{1}{2}$	Ditto of 6 ditto
h — 30	12 21	0	4 2 $\frac{1}{2}$	11 W mean of 6
	13 10	48	4 6	Mean of 6 Obs
	14 7	45	4 9	Ditto of 15 ditto
			4 11 $\frac{1}{2}$	Ditto of 8 ditto
			5 5	11 W mean of 8

The above Observations of Mr Bayley were made in the forenoon and by the first mean of the observations taken at Quaker Bay and at the other places mentioned in the same manner. I should have continued these Observations longer if the Native had not taken away my tube.

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	H	H	H	o	H	
♀ Nov. 5.	24 39 27 36 $\frac{1}{4}$	10 27 01 $\frac{1}{4}$ 29 56 $\frac{1}{4}$	29 21 $\frac{1}{4}$ 32 15 $\frac{1}{4}$	60 o o		☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 6.	2 16 $\frac{1}{4}$	18 59 56 $\frac{1}{4}$ 19 2 52	57 36 $\frac{1}{4}$ 0 33 $\frac{1}{4}$	60 o o	14 44 46,06	☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 8.	55 29 $\frac{1}{4}$ 58 05 55 56 58 51 $\frac{1}{4}$	9 57 47 $\frac{1}{4}$ 10 0 45 10 58 16 $\frac{1}{4}$ 11 1 12 $\frac{1}{4}$	0 08 $\frac{1}{4}$ 3 04 $\frac{1}{4}$ 0 37 3 34	67 o o 55 40 o		☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 9.	52 58 $\frac{1}{4}$ 55 56 53 30 56 26 6 9 9 16	18 50 37 $\frac{1}{4}$ 53 34 $\frac{1}{4}$ 19 51 10 $\frac{1}{4}$ 54 6 12 8 39 $\frac{1}{4}$ 11 45	48 18 $\frac{1}{4}$ 51 14 $\frac{1}{4}$ 48 52 51 47 $\frac{1}{4}$ 14 12	55 40 o 67 o o 43 20 o	14 55 46 $\frac{1}{2}$	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 10.	49 55 53 04 $\frac{1}{4}$	17 47 26 50 34	45 01	43 20 o	14 59 28,63	☉'s L. L. } Westerly. ☉'s U. L. }
♂ — 11.	14 31 $\frac{1}{4}$ 17 37 $\frac{1}{4}$ 9 39 $\frac{1}{4}$ 12 30	10 16 52 $\frac{1}{4}$ 19 48 11 11 14 56 $\frac{1}{4}$	19 12 22 6 $\frac{1}{4}$ 14 21 17 17	65 o o 54 40 o		☉'s U. L. } Easterly. ☉'s L. L. }
♀ — 12.	1 30 $\frac{1}{4}$ 4 28 56 40 $\frac{1}{4}$ 59 37 12 7 15 1 56 29 59 23 $\frac{1}{4}$	18 19 2 7 19 54 21 19 57 19 10 14 26 17 21 10 58 48 $\frac{1}{4}$ 11 1 42 $\frac{1}{4}$	56 49 59 47 52 02 54 58 16 44 $\frac{1}{4}$ 19 39 1 7 4 3	54 40 o 65 o o 66 o o 57 40 o	15 6 54,51	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 13.	22 12 $\frac{1}{4}$ 25 5 6 39 9 35 22 2 $\frac{1}{4}$ 24 58 $\frac{1}{4}$ 39 49 $\frac{1}{4}$ 42 45	19 19 22 45 20 4 19 7 13 $\frac{1}{4}$ 10 24 23 $\frac{1}{4}$ 27 18 $\frac{1}{4}$ 10 42 9 45 5	20 27 $\frac{1}{4}$ 2 1 4 55 $\frac{1}{4}$ 29 37 44 28 47 24	57 40 o 66 o o 64 40 o 61 20 o	15 10 38,71	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 14.					15 14 22,33	

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock	Apparent Time	Height of the Water		Remarks	1773	Times by Clock	Apparent Time	Height of the Water		Remarks	
	H		F	I			H		I			
b Aug 28	8 29		3	3½	High Water in the Morn	d Aug 31	11 0		3	6½	Low Water in the Evening	
	8 37		3	4½			11 30		3	5½		
	8 40		3	4½			11 40		3	6½		
	9 07		3	4½			11 50		3	4½		
	9 18		3	4½			16 12		2	5½		
	9 57		3	3½			16 22		2	5½		
	10 06		3	3½			16 32		2	5½		
	10 27		3	3½			16 45		2	5½		
	o — 29	15 32		2			3½	16 49		2		5½
	15 35		2	3½			17 0		2	4½		
	15 46		2	3			17 16		2	5		
	15 48		2	3½			17 9		2	5½		
16 10		2	2½	Low Water in the Even	17 35		2	5½				
16 12		2	2½									
16 24		2	2½									
16 30		2	2½									
16 35		2	3	Low Water in the Morn								
4 30		2	5									
5 05		2	4									
5 18		2	4½									
o — 30	5 27		2	5	High Water	b Aug 28	6 48	0	5	5	L W mean of 7 Mean of 7 Obs Ditto of 5 ditto Ditto of 5 ditto H W mean of 8 Mean of 4 Obs Ditto of 6 ditto Ditto of 10 ditto L W mean of 8 Ditto, ditto of 5 Mean of 6 Obs Ditto of 6 ditto Ditto of 6 ditto H W mean of 6 Mean of 6 Obs Ditto of 15 ditto Ditto of 8 ditto L W mean of 8	
	10 5		3	5½			7 17	0	4	9½		
	10 9		3	6½			7 56	0	4	8		
	10 18		3	6½			9 0	48	4	6		
	10 22		3	6			10 2	30	4	4½		
	10 33		3	6½			10 57	10	4	6		
	10 36		3	5½			11 34	6	4	8		
	10 45		3	5			o — 29		4	9½		
	10 49		3	5½					5	7½		
	11 0		3	5					5	6½		
	4 40		2	3½			Low Water in the Morn	6 51	30	4		11½
	4 50		2	3½				7 30	50	4		9
5 0		2	3½	8 11	0	4		6½				
5 10		2	3½	10 21	49	4		2½				
d — 31	5 25		2	4½	High Water	o — 30	12 21	0	4	6		
	5 39		2	4½			13 10	48	4	9		
	9 44		3	5½			14 7	45	4	11½		
	9 50		3	6½					5	5½		
	9 56		3	5								
	10 08		3	6½								
	10 20		3	6½								
	10 40		3	6½								

The following Observations, taken by myself, may contribute towards ascertaining the times of high water

1773	Times by Clock	Apparent Time	Height of the Water		Number of Observations with Remarks	
	H		F	I		
b Aug 28	6 48	0	5	5	L W mean of 7	
	7 17	0	4	9½	Mean of 7 Obs	
	7 56	0	4	8	Ditto of 5 ditto	
	9 0	48	4	6	Ditto of 5 ditto	
	10 2	30	4	4½	H W mean of 8	
	10 57	10	4	6	Mean of 4 Obs	
	11 34	6	4	8	Ditto of 6 ditto	
	o — 29			4	9½	Ditto of 10 ditto
				5	7½	L W mean of 8
				5	6½	Ditto, ditto of 5
		6 51	30	4	11½	Mean of 6 Obs
		7 30	50	4	9	Ditto of 6 ditto
8 11		0	4	6½	Ditto of 6 ditto	
10 21		49	4	2½	H W mean of 6	
12 21		0	4	6	Mean of 6 Obs	
13 10		48	4	9	Ditto of 15 ditto	
14 7		45	4	11½	Ditto of 8 ditto	
d — 30				5	5½	L W mean of 8

The above Observations of Mr Bayley's, were made in the same manner and by the same men as those at Queen Charlotte's Sound; and the which I took, were made in the same manner as those at Dusky Bay in New Zealand; I should have continued these Observations longer if the Natives had not taken away my boat

The following Observations, taken by myself, may contribute towards determining the times of high water

1773	Times by Clock	Apparent Time	Height of the Water		Number of Observations with Remarks
	H		H	F I	
b Aug 28	6 48	0		5 5	L W mean of 7
	7 17	0		4 9 $\frac{1}{2}$	Mean of 7 Obs
	7 56	0		4 8	Ditto of 5 ditto
	9 0	48		4 6	Ditto of 5 ditto
	10 2	30		4 4 $\frac{1}{2}$	H W mean of 8
	10 57	10		4 6	Mean of 4 Obs
	11 34	6		4 8	Ditto of 6 ditto
				4 9 $\frac{1}{2}$	Ditto of 10 ditto
				5 7 $\frac{1}{2}$	L W mean of 8
				5 6 $\frac{1}{2}$	Ditto, ditto of 5
	6 51	30		4 11 $\frac{1}{2}$	Mean of 6 Obs
	7 30	50		4 9	Ditto of 6 ditto
	8 11	0		4 6 $\frac{1}{2}$	Ditto of 6 ditto
	10 21	49		4 2 $\frac{1}{2}$	H W mean of 6
	12 21	0		4 6 $\frac{1}{2}$	Mean of 6 Obs
	13 10	48		4 9	Ditto of 15 ditto
	14 7	45		4 11 $\frac{1}{2}$	Ditto of 8 ditto
				5 5 $\frac{1}{2}$	L W mean of 8

The above Observations of Mr Bayley's, were made in the same manner and by the same men that Queen Charlotte's Sound, and the 16 which I took, were made in the same manner as those at Dusky Bay in New Zealand. I should have continued these Observations longer if the Natives had not taken away my 1 be

Observations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
	" "	" "	" "			
Nov. 5	24 39 27 36 $\frac{1}{2}$	10 27 01 $\frac{1}{2}$ 29 56 $\frac{1}{2}$	29 21 $\frac{1}{2}$ 32 15 $\frac{1}{2}$	60 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
6.	2 16 $\frac{1}{2}$	18 59 56 $\frac{1}{2}$ 19 2 52	57 36 $\frac{1}{2}$ 0 33 $\frac{1}{2}$	60 0 0	14 44 46,06	☉'s L. L. } Westerly. ☉'s U. L. }
8.	55 29 $\frac{1}{2}$ 58 05 55 56 58 51 $\frac{1}{2}$	9 57 47 $\frac{1}{2}$ 10 0 45 10 58 16 $\frac{1}{2}$ 11 1 12 $\frac{1}{2}$	0 08 $\frac{1}{2}$ 3 04 $\frac{1}{2}$ 0 37 3 34	67 0 0 55 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
9.	52 58 $\frac{1}{2}$ 55 56 53 30 56 26 6 9 9 16 $\frac{1}{2}$	18 50 37 $\frac{1}{2}$ 53 34 $\frac{1}{2}$ 19 51 10 $\frac{1}{2}$ 54 6 12 8 39 $\frac{1}{2}$ 11 45	48 18 $\frac{1}{2}$ 51 14 $\frac{1}{2}$ 48 52 51 47 $\frac{1}{2}$ 14 12	55 40 0 67 0 0 43 20 0	14 55 46 $\frac{1}{2}$	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
10.	49 55 53 04 $\frac{1}{2}$	17 47 26 50 34	45 01	43 20 0	14 59 28,63	☉'s L. L. } Westerly. ☉'s U. L. }
11.	14 31 $\frac{1}{2}$ 17 37 $\frac{1}{2}$ 9 39 $\frac{1}{2}$ 12 30 $\frac{1}{2}$	10 16 52 $\frac{1}{2}$ 19 48 11 11 14 56 $\frac{1}{2}$	19 12 22 6 $\frac{1}{2}$ 14 21 17 17	65 0 0 54 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
12.	1 30 $\frac{1}{2}$ 4 28 56 40 $\frac{1}{2}$ 59 37 12 7 15 1 56 29 59 23 $\frac{1}{2}$	18 19 2 7 19 54 21 19 57 19 10 14 26 17 21 10 58 48 $\frac{1}{2}$ 11 1 42 $\frac{1}{2}$	56 49 59 47 52 02 54 58 16 44 $\frac{1}{2}$ 19 39 1 7 4 3	54 40 0 65 0 0 66 0 0 57 40 0	15 6 54,51	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
13.	22 12 $\frac{1}{2}$ 25 5 6 39 9 35 22 24 $\frac{1}{2}$ 24 58 $\frac{1}{2}$ 39 49 $\frac{1}{2}$ 42 45	19 19 22 45 20 4 19 7 13 $\frac{1}{2}$ 10 24 23 $\frac{1}{2}$ 27 18 $\frac{1}{2}$ 10 42 9 45 5	20 27 $\frac{1}{2}$ 2 1 4 55 $\frac{1}{2}$ 29 37 44 28 47 24	57 40 0 66 0 0 64 40 0 61 20 0	15 10 38,71	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
14.					15 14 22,33	

Observations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Times by Clock B			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	"	H	"		H	
O Nov 14		19 43 58 $\frac{1}{2}$	41 40 $\frac{1}{2}$	61 20 0		O s L L
	49 14 $\frac{1}{2}$	46 53	44 36 $\frac{1}{2}$			O s U L } Westerly
	4 7	20 1 45 $\frac{1}{2}$	59 28	64 40 0		O s L L }
	7 1 $\frac{1}{2}$	4 43	2 24			O s U L }
	7 9	10 9 29 $\frac{1}{2}$	11 49 $\frac{1}{2}$	68 0 0		O s U L }
	10 6 $\frac{1}{2}$	12 26	14 45 $\frac{1}{2}$			O s L L } Easterly
	23 14	10 25 32 $\frac{1}{2}$	27 50 $\frac{1}{2}$	65 0 0		O s U L }
		28 27 $\frac{1}{2}$	30 47 $\frac{1}{2}$			O s L L }
Nov 15					15 18 08 $\frac{1}{4}$	
	10 29 $\frac{1}{2}$	20 08 09 $\frac{1}{2}$		65 0 0		O s L L }
	13 25	11 5	8 46 $\frac{1}{2}$			O s U L } Westerly
	26 32 $\frac{1}{2}$	20 24 13		68 0 0		O s L L }
	29 30	27 9	24 49			O s U L }
	47 27	10 49 48 $\frac{1}{2}$		61 0 0		O s U L } Easterly
	50 24	52 44	55 2 $\frac{1}{2}$			O s L L }
Nov 16					15 21 54 $\frac{1}{2}$	
	53 42	19 51 24	49 5	61 0 0		O s L L } Westerly
	56 39	54 18 $\frac{1}{2}$	52 0 $\frac{1}{2}$			O s U L }
Nov 17	57 02	10 59 23	1 41 $\frac{1}{2}$	60 20 0		O s U L } Easterly
	59 58	11 2 18	4 37 $\frac{1}{2}$			O s L L }
Nov 18					15 29 31,52	
	59 20 $\frac{1}{2}$	19 57 01 $\frac{1}{2}$	54 41	60 20 0		O s L L } Westerly
	2 13	59 57 $\frac{1}{2}$	57 39			O s U L }
Nov 19		13 10 47		37 20 30		O s U L } Easterly
	11 24		16 27 $\frac{1}{2}$			O s L L }
Nov 20					15 37 10,47	
	3 9	18		37 20 30		O s L L } Westerly
		18 3 43 $\frac{1}{2}$				O s U L }
Nov 21	38 53	12 41 15 $\frac{1}{2}$	43 39	43 40 0		O s U L } Easterly
	41 52	44 16	46 40 $\frac{1}{2}$			O s L L }
Nov 22					15 44 51,38	
	48 01	18 45 37	43 12 $\frac{1}{2}$	43 40 0		O s L L } Westerly
	51 01	48 38	46 14 $\frac{1}{2}$			O s U L }

Observations at Queen Charlotte's Sound, in New Zealand, Continued.

Observed Zenith Distances of the Sun and fixed Stars.

1773.	Zenith Distances.			Barom.	Thermom.		
	Interior Arch.	Exterior Arch.			In Tent.	Out.	
	° ' "	° ' "	+ "				
♂ Nov. 9.	10 16 50	10 3 27	23	30,07	50	47	Bomalhaut on the Meridian.
	55 4 25	58 3 0	7				α Pegasi, Ditto.
♂ ——— 14.	22 32 25	24 0 5	20	30,33	72½	70	♂'s U. L. Ditto.
♂ ——— 15.	22 49 32	24 1 13	3				♂'s L. L. Ditto.
	22 16 59	23 3 3	0	30,17	71	67	♂'s U. L. Ditto.
	17 17 18	18 1 25	0				Achernar, Ditto.
♂ ——— 16.	68 53 56	73 1 31	15	30,0	57	54½	α Andromeda, Ditto.
	17 16 50	18 1 24	23	29,99	54½	55	Achernar, Ditto.
♂ ——— 17.	21 46 37	23 0 29	20	29,99	71	76	♂'s U. L. Ditto.
	22 19 15	23 3 8	0				♂'s L. L. Ditto.
♂ ——— 18.	22 5 7	23 2 8	0	29,70	71½	73½	♂'s L. L. Ditto. Cloudy.
♂ ——— 20.	68 53 55	73 1 31	20	29,64	50½	47½	α Andromeda, Ditto.
	17 17 33	18 1 26	13	29,65	48½	46½	Achernar, Ditto.

The following Observations, for finding the Error of the Line of Collimation of the Quadrant, were made in the same manner, and by the same means, as those at Point Venus, in Otaheite: The position of the Quadrant was changed after every six Observations.

	Zenith Distance of the upper hole: the Quadrant direct.				Zenith Distance of the lower hole: the Quadrant inverted.				
	Interior Arch.		Exterior Arch.		Interior Arch.		Exterior Arch.		
	°	"			°	"	G. S. V.	+ "	
	89	46 15	95 3 1	7	90	14 10	96 1 1	0	
		20		7		0		0	19
		22		10		0		0	20
		18		7		15		1	7
		20		6		15		1	9
		22		13		5		1	5
	89	46 27	95 3 1	20	90	13 55	96 1 1	0	
		27		20		14 0		1	0
		25		13		13 55		0	22
		27		18		13 52		0	15
		21		9		13 52		0	20
		21		13		14 0		0	22
Mean of the upper	89	46 22,1	95 3 1	12	90	14 01,6	96 1 0	24,8	Means.
Ditto of the lower	90	14 01,6	96 1 0	24,8					
Excess above 180°.		23,7		2				10,4	
Error of the Line of Collimation.		— 11,85		— 1				5,2	To be subtracted.

Observations at Queen Charlotte's Sound, in New Zealand, Continued

Computations of the Latitude of the Place, from the preceding Observations

1773	Latitude			1773	Latitude		
	Interior Arch	Exterior Arch	Declination		Interior Arch	Exterior Arch	Declination
	°	°	°		°	°	°
By Observations of the Sun				By an Observation of Fomalhaut			
o Nov 14	41 5 55 $\frac{1}{2}$	41 5 42	18 17 04 $\frac{1}{2}$ N	8 Nov 9	41 5 42 $\frac{3}{4}$	41 5 27 $\frac{1}{2}$	30 48 53 $\frac{1}{2}$ N
p — 15	41 6 0	41 5 57	18 32 33	By an Observation of α Pegasi			
y — 17	41 5 37	41 5 29 $\frac{1}{2}$	19 2 30 $\frac{1}{2}$		41 5 48 $\frac{1}{2}$	41 5 51 $\frac{1}{2}$	
z — 18	41 6 1 $\frac{1}{2}$	41 5 58	19 16 59	The preceding Stars all passed N of the Zenith			
	41 5 53 $\frac{1}{2}$	41 5 46 $\frac{1}{2}$	Means	The following of Achernar, were S of the Zenith			
By Observations of α Andromeda				p Nov 15	41 6 25	41 6 30	
8 Nov 16	41 5 30 $\frac{1}{2}$	41 5 25 $\frac{1}{2}$	27 50 39 N		41 6 53	41 6 33 $\frac{3}{4}$	
h — 20	41 5 31 $\frac{3}{4}$	41 5 31 $\frac{1}{2}$			41 6 9 $\frac{1}{2}$	41 5 50 $\frac{1}{2}$	
	41 5 31	41 5 29	Means		41 6 29	41 6 18	Mean by Achernar
					41 5 41	41 5 38 $\frac{1}{2}$	Mean of N Stars
					41 6 6 $\frac{1}{2}$	41 5 58 $\frac{1}{2}$	Mean of both
				And 41 6 2 $\frac{1}{2}$ is the Latitude South			

Observations for the Longitude of the Place

1773	Time by the Clock.	Apparent Time	Zenith Distance D & U L	Distance @ and D & near soft Lamb	Longitude East	Remarks, &c.
	H	H	°	°	°	
p Nov 6	9 27 28	18 44 33,4	58 24	99 28	174 2 51	{ Observed with a Quadrant of Mr Dollond's making, and 1 16" must be subtracted from the distance for its error
	29 36		32	28		
	31 8		37	27		
	33 13		44 $\frac{1}{2}$	27		
	35 5		51 $\frac{1}{2}$	26 $\frac{1}{2}$		
	36 33	18 58 32	56 $\frac{1}{2}$	25 $\frac{1}{2}$	174 54 45	{ Observed with a Quadrant of Mr Ramsden's making, and 2 00 must be added to the distance for its error
	9 42 22		59 19 $\frac{1}{2}$	99 22		
	43 43		24 $\frac{3}{4}$	22		
	45 19		31	21 $\frac{1}{2}$		
	47 0		38	21		
	48 28		44 $\frac{1}{2}$	20 $\frac{1}{2}$		
	50 16		53 $\frac{1}{2}$	19 $\frac{1}{2}$		

Observations at Queen Charlotte's Sound, in New Zealand, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock.		Apparent Time.		Zenith Distance by U. L.		Distance \odot and \uparrow 's nearest Limbs.		Longitude East.		Remarks, &c.
	H	M	H	M	Q	M	Q	M	Q	M	
Nov. 8.	10	12 30	19	22 52	50	21 $\frac{1}{2}$	75	33 $\frac{1}{2}$	174	20 45	{ Distance observed by Mr. Ramsden's Quadrant: Error 2' 05"; to be added.
		14 49				22 $\frac{1}{2}$		32 $\frac{1}{2}$			
		16 23				23		33			
		19 52				25		31 $\frac{1}{2}$			
		21 13				26		31			
		22 47				27 $\frac{1}{2}$		30 $\frac{1}{2}$			
	10	40 59 $\frac{1}{2}$	19	49 14	50	53	75	27	173	55 37 $\frac{1}{2}$	{ The distances were observed with Mr. Dollond's Quadrant, and 1' 17" must be subtracted for its error.
		42 20				55 $\frac{1}{2}$		26 $\frac{1}{2}$			
		44 04				58 $\frac{1}{2}$		26			
		45 09			51	01		25 $\frac{1}{2}$			
		46 16				04		25 $\frac{1}{2}$			
	47 24				06 $\frac{1}{2}$		24 $\frac{1}{2}$				
— 18.	18	43 49	3	17 17.8	24	15	51	4	174	41 0	{ Distances with Dollond's Quadrant, and 1' 9" must be subtracted for its error.
		45 32				11 $\frac{1}{2}$		4 $\frac{1}{2}$			
		47 04				7		5			
		48 11				5 $\frac{1}{2}$		5 $\frac{1}{2}$			
		49 11				2 $\frac{1}{2}$		6			
		50 18				1		6 $\frac{1}{2}$			
	18	53 53	3	28 19.	23	55	51	05 $\frac{1}{2}$	174	25 7	{ The distance was observed with Ramsden's Quadrant, and 2' 30" must be added for its error.
		56 46				51		06 $\frac{1}{2}$			
		58 02 $\frac{1}{2}$				49		6 $\frac{1}{2}$			
		59 19				47 $\frac{1}{2}$		7			
	19	0 34				46 $\frac{1}{2}$		7 $\frac{1}{2}$			
	01 48				46		7 $\frac{1}{2}$				
— 20.	18	20 49	2	48 8.4	45	7 $\frac{1}{2}$	77	4 $\frac{1}{2}$	174	36 12	{ Distance by Dollond's Quadrant, and its error was 1' 00", to be subtracted.
		23 12				44		6			
		25 09				44		6 $\frac{1}{2}$			
		26 40				44		7			
		28 15				43		7 $\frac{1}{2}$			
		30 29				43		8 $\frac{1}{2}$			
	18	55 45	3	21 57.4	39	45	77	14 $\frac{1}{2}$	174	18 21	{ Distance by Ramsden's Quadrant; and its error was 2' 14", to be added.
		57 16				39		15			
		58 50				39		15 $\frac{1}{2}$			
	19	0 16				39		16			
		2 16				38		16 $\frac{1}{2}$			
	3 38				38		17 $\frac{1}{2}$				

Observations at Queen Charlotte's Sound, in New Zealand, Continued

Observations on the Tides

1773	Time by the Clock		Appa- rent Time	Height of the Water		Remarks	1773	Time by the Clock		Appa- rent Time	Height of the Water		Remarks
	H	M		F	I			H	M		F	I	
Nov 15	15	01		3	8		Nov 19	16	40		3	4	
— 16	15	16		3	11			17 2			3	7	
	12 30			8	6½	Low Water		17 27			3	10	
	12 49			3	10			17 45			4	0	
	13 14			3	7						7	6½	Low Water
	14 11	22 46,1		3	1			14 26			7	4	Ditto
	15 7			2	8	High Water		14 31			4	3	
— 17	15 35			3	1			14 34			4	2	
	15 55			3	7			16 16	0 39,4		4	1	High Water
				3	10		— 20	17 57			3	1	
				8	6	Low Water		18 01			4	1	
				8	1½	Ditto.		18 08			4	2	
	14 02			3	0						4	3	
	14 58	23 29,0		2	6½	High Water					7	2	Low Water
— 18	15 55			3	0						7	2	Ditto
				8	0	Low Water		15 35			4	4	
				7	10	Low Water		15 39			4	3	
	13 37			4	0		— 21	15 47			4	2	
	13 59			3	10			17 11½	1 30,3		4	2	High Water
	14 27			3	7			18 39			4	2	
	14 52			3	4			18 43			4	3	
— 19	15 43½	0 10,3		2	6	High Water		18 46			4	4	

In these eight days, the time of high water advanced only 4 h 44 instead of 6 h 40, which I conceive it ought to have done. The observations were made by means of two posts, divided into feet and inches, from their tops downwards; and their tops were placed truly level by the astronomical quadrant.

Observations at Queen Charlotte's Sound, in New Zealand, Continued.

Computations of the going of the Clock.

1773.	Time by Clock of apparent Noon.			Syderial Time of apparent Noon.			Clock flow of Syderial Time.		Clock gains on Syderial Time.	
	H	"	"	H	"	"	"	"	"	"
h Nov. 6.	14	44	46,06	14	45	52,34	1	06,28		20,78
8 — 9.	14	55	46,17	14	57	54,78	2	08,61		20,25
8 — 10.	14	59	28,63	15	01	57,49	2	28,86		20,88
8 — 12.	15	6	54,51	15	10	05,13	3	10,62		21,05
h — 13.	15	10	38,71	15	14	10,38	3	31,67		22,39
o — 14.	15	14	22,33	15	18	16,39	3	54,06		20,44
o — 15.	15	18	08,75	15	22	23,25	4	14,50		22,02
8 — 16.	15	21	54,50	15	26	31,02	4	36,52		20,51
h — 18.	15	29	31,52	15	34	49,05	5	17,53		21,08
h — 20.	15	37	10,47	15	43	10,17	5	59,70		21,76
h — 22.	15	44	51,38	15	51	34,60	6	43,22		
Mean is									21,116	

The clock was fixed up as usual, and the pendulum of the same length.

Computations of the going of Mr. Kendall's Watch.

1773.	Time by the the Clock of apparent Noon.	Time by Clock when the Watch was com- pared.	Time from Noon by the Clock.	Clocks gain on the Watch.	Time from Noon by the Watch.	Time by the Watch when com- pared.	Time of ap- parent Noon by the Watch.	Mean Time of apparent Noon.	Watch too slow for mean Time.	Watch gains on mean Time.
	H	H	"	"	"	H	H	H	H	"
h Nov. 6.	14 44 46,06	14 51 0,25	6 14,19	0,90	6 13,29	12 36	12 29 46,71	23 43 51,46	11 14 04,69	7,79
8 — 9.	14 55 46,17	14 43 21,50	12 24,67	1,78	12 22,89	12 18	12 30 22,89	23 44 04,20	11 13 41,31	9,70
8 — 10.	14 59 28,63	15 11 51,75	12 23,12	1,77	12 21,35	12 43	12 30 38,65	23 44 10,26	11 13 31,61	7,20
8 — 12.	15 06 54,51	15 9 47,25	2 52,74	0,42	2 52,32	12 34	12 31 7,68	23 44 24,90	11 13 17,22	9,03
h — 13.	15 10 38,71	15 23 15,25	12 36,54	1,80	12 34,74	12 41	12 31 25,26	23 44 33,45	11 13 8,10	8,27
o — 14.	15 14 22,33	15 22 40,50	8 18,17	1,16	8 17,01	12 40	12 31 42,99	23 44 42,91	11 12 59,92	12,17
o — 15.	15 18 08,75	15 25 04,25	6 55,50	0,98	6 54,52	12 39	12 32 5,48	23 44 53,23	11 12 47,75	8,47
8 — 16.	15 21 54,50	15 38 31,75	16 37,25	1,17	16 34,88	12 49	12 32 25,12	23 45 04,40	11 12 39,28	11,16
h — 18.	15 29 31,52	15 38 20,50	8 48,98	1,25	8 47,73	12 42	12 33 12,27	23 45 29,22	11 12 16,95	9,80
h — 20.	15 37 10,47	15 43 11,25	6 00,78	0,86	5 59,92	12 40	12 34 00,08	23 45 57,25	11 12 57,17	7,43
h — 22.	15 44 51,38	15 44 05,25	0 46,13	0,11	0 46,02	12 34	12 34 46,02	23 46 28,33	11 11 42,31	
Mean is									9,091	

Observations for the Dip of the Magnetic Needle, made at Tolaga Bay,
in New Zealand, by Mr Bayley

1773	Dip of the Needle's South End				
	Face of the Instrument		After changing the Poles		
	East	West	Face East	Face West	
	0	0	0	0	
Nov 15	62 0	62 15	62 0	62 10	The latitude of Tolaga Bay Mr Bayley found to be $38^{\circ} 21 \frac{1}{2}$ S and its longitude $178 33 \frac{1}{2}$ E. The variation of the compass was $13^{\circ} 40$ E
	62 27	62 35	62 30	62 27	
	61 55	63 0	62 55	63 0	
	62 10	62 45	62 16	62 40	
	62 35	63 20	62 10	61 55	
	63 0	62 27	61 55	62 0	
	62 47	62 45	62 27	62 30	
	62 24	62 0	63 0	62 15	
	61 50	62 15	62 40	62 20	
	62 16	62 10	62 16	62 45	
Means	62 20,4	62 33,2	62 24,9	62 24,2	
Mean of the above four Means				62 25,7	

Observations by Mr Bayley, at Queen Charlotte's Sound, in New Zealand

1773	Equal Altitudes Times by the Clock C			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	H	H			
Dec. 6		12 9 18	11 49	61 0 0		<div> <div> <div>0's U L</div> <div>0's L L</div> <div>0's U L</div> <div>0's L L</div> </div> Easterly </div>
	9 44	12 15 $\frac{1}{2}$				
		12 18 15	20 34 $\frac{1}{2}$			
	18 40 $\frac{1}{2}$	21 11		59 20 0		
7				89 20 0	16 53 39,6	<div> <div> <div>0's L L</div> <div>0's U L</div> <div>0's L L</div> <div>0's U L</div> </div> Westerly </div>
	28 47 $\frac{1}{2}$	21 26 18 $\frac{1}{2}$	26 45			
		21 29 12 $\frac{1}{2}$				
	37 42 $\frac{1}{2}$	21 35 11 $\frac{1}{2}$		61 0 0		
		21 38 9 $\frac{1}{2}$	35 41	61 40 0		<div> <div> <div>0's U L</div> <div>0's L L</div> <div>0's U L</div> <div>0's L L</div> </div> Easterly </div>
	6 6	12 8 38	11 19			
	9 3 $\frac{1}{2}$	11 34 $\frac{1}{2}$	14 6 $\frac{1}{2}$			
	43 29 $\frac{1}{2}$	12 46 0 $\frac{1}{2}$	48 29 $\frac{1}{2}$	54 40 0		
		48 54 $\frac{1}{2}$	51 25 $\frac{1}{2}$	52 0 0		
	57 41	13 0 11 $\frac{1}{2}$	2 41 $\frac{1}{2}$			
	0 38	3 7	5 37 $\frac{1}{2}$			
8					16 56 53,68	

Observations by Mr. Bayley, at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock C.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
		H			H	
2 Dec. 8.	53 16½ 56 11½	20 50 46½ 53 42½	48 17½ 51 11½	52 0 0	17 0 08,77	☉'s L. L.
		21 4 59	2 29½			☉'s U. L.
	10 23½	21 7 54½	5 24	54 40 0		☉'s L. L.
	44 52	21 42 18½	39 49:			☉'s U. L.
		21 45 17½	42 46½	61 40 0		☉'s L. L.
	12 37	12 15 8½	17 38½			☉'s U. L.
		12 18 4½	20 35½	61 0 0		☉'s L. L.
		13 40 30	43 02			☉'s U. L.
	40 57½	13 43 28½	46 01½	45 0 0		☉'s L. L.
24 — 9.	19 26	20 16 53½	14 21	45 0 0	17 0 08,77	☉'s L. L.
		20 19 52½	17 20½			☉'s U. L.
		21 42 19½	39 50½	61 0 0		☉'s L. L.
	47 45½	21 45 17½	42 45½			☉'s U. L.
	45 50	12 48 20½	50 49	55 20 0		☉'s U. L.
	48 46½	12 51 16½				☉'s L. L.
	36 22½	13 39 53½	42 24½	45 40 0		☉'s U. L.
	40 21:	13 42 51½	45 22½			☉'s L. L.
2 — 10.	26 33½	20 24 2	21 32	45 40 0		17 3 23,95
	28 29½	20 26 59½	24 28½		☉'s U. L.	
	18 8	21 15 37½		55 20 0	☉'s L. L.	
	21 3½	21 18 32½	16 2½		☉'s U. L.	
	20 21½	12 22 53	25 24	60 40 0	☉'s U. L.	
	23 18	12 25 49½	28 19½		☉'s L. L.	
	6 37½	13 9 7	11 37	52 0 0	☉'s U. L.	
		13 12 3½	14 31½		☉'s L. L.	
6 — 11.		21 1 23½	58 53½	52 0 0	17 6 40,90	
	6 48½	21 4 19½	1 50			☉'s U. L.
	50 8½	21 47 36½	45 6	60 40 0		☉'s L. L.
	53 4½	21 50 34½	48 2½			☉'s U. L.
	52 49:	11 55 21	57 55	66 20 0		☉'s U. L.
	55 46½	11 58 21				☉'s L. L.
	53 40½	12 56 11	58 41	55 0 0		☉'s U. L.
	56 36½	12 59 7	1 37			☉'s L. L.
12.	23 23	21 20 52½	18 23	55 0 0		17 09 56,71
	26 17½	21 23 47½	21 18½		☉'s U. L.	
	24 11½	22 21 38		66 20 0	☉'s L. L.	
	27 9	22 24 37½	22 5½		☉'s U. L.	

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Equal Altitudes Times by Clock C			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H			H	
o Dec 12	50 25½	11 52 59	55 31	67 20 0		Q's U L
	53 24	11 55 59				Q's L L
	46 5	12 48 34	51 5½			Q's U L
	49 0½	12 51 30½	53 59½			Q's L L
d — 13					17 13 13,24	
	37 33	21 35 0	32 31	57 0 0		Q's L L
	40 27½	21 37 56½	35 28			Q's U L
	33 6½	22 30 33				Q's L L
	36 5½	22 33 32½	31 0½			Q's U L
e — 14						
	14 43½	12 17 15½		64 0 0		Q's U L
	17 42½					Q's L L
	50 31	12 52 59½	55 31			Q's U L
	53 25½					Q's L L
	27 46½	13 30 17	32 47½	50 20 0		Q's U L
	30 43½	13 33 13½	35 43½			Q's L L
y — 15					17 19 50,31	
	9 1½	21 6 29	4 0½	50 20 0		Q's L L
	11 54½	21 9 25	6 54½			Q's U L
	46 17					Q's L L
	49 13½	21 46 43	44 13			Q's U L
	22 4			64 0 0		Q's L L
	25 1½	22 22 29½				Q's U L

Computations of the Rate of going of the Clock C

1773-	Time of apparent Noon by the Clock			Syderial Time of apparent Noon	Clock too slow for Syderial Time	Clock loses on Syderial Time.
	H			H		
e Dec 7	16	53	39,6	16	56	07 70
y — 8	16	56	53,68	17	0	30,70
d — 9	17	0	08,77	17	4	54,20
e — 10	17	3	23,97	17	9	18,52
y — 11	17	6	40,90	17	13	43,20
o — 12	17	9	56 71	17	18	8,01
d — 13	17	13	13,24	17	22	33,40
e — 15	17	19	50,31	17	31	24 51
					11	34,20
Mean rate is						1 8,47

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Computations of the Rate which Mr. Arnold's Watch (No. 1.) went at.

1773.	Time by the Clock.		Time by the Watch.		Clock before the Watch.		Watch loses on the Clock.		Time between the Comparisons.		Watch loses on the Clock per Day.		Watch loses on Syderial Time per Day.		Watch loses on Syderial Time per Day.		Watch loses on mean Time per Day.	
	H	"	H	"	H	"	"	"	H	"	"	"	"	"	"	"	"	
8 Dec. 7.	17	3 8	8 25 0	8 38 08			3 30	23 58	3 30,29	1 8,92	4 39,21	42,71						
8 — 8.	17	4 38	8 23 0	8 41 38			3 32	24 08	3 30,83	1 8,41	4 39,24	42,74						
24 — 9.	17	16 10	8 31 0	8 45 10			3 30½	23 48	3 32,25	1 9,12	4 41,37	44,87						
8 — 10.	17	7 40½	8 19 0	8 48 40½			3 30½	23 39	3 33,57	1 7,75	4 41,32	44,82						
h — 11.	16	50 11	7 58 0	8 52 11			3 46	25 15	3 35,07	1 9,0	4 44,07	47,57						
o — 12.	18	8 57	9 13 0	8 55 57			3 25	22 59	3 33,93	1 8,86	4 41,79	45,29						
d — 13.	17	11 22	8 12 0	8 59 22			3 30	23 19	3 36,0	1 7,02	4 43,02	46,52						
8 — 14.	16	33 52	7 31 0	9 2 52			3 42	24 49	3 34,83	1 7,02	4 41,85	45,35						
h — 15.	17	26 34	8 20 0	9 6 34														
													44,984					

Mr. Bayley farther computes, that the Watch was too slow for mean Time, at Queen Charlotte's Sound, on December the 15th, at noon, by 15 h. 42' 17", 46.

Meridian Altitudes of the Sun and Stars for determining the Latitude.

1773.	Zenith Distance.				Latitude.	Phenomena.
	Interior Arch.	Exterior Arch.		Exterior Arch reduced.		
		G. S. V.	"			
♂ Dec. 7.	18 42 50	19 3 27	0	18 42 48,1	41 5 58,1	☉'s L. L.
	18 10 15	19 1 17	0	18 10 16,9		☉'s U. L.
♀ — 10.	18 24 40	19 2 18	0	18 24 47,1	41 5 43,3	☉'n L. L.
	17 51 18	19 0 06	0	17 51 23,2		☉'s U. L.
♂ — 11.	18 20 0				41 5 48,2	☉'s L. L.
	17 46 25	18 3 27	0	17 46 33,1		☉'s U. L.
	57 05 55	60 3 20	0	57 5 58,5	41 5 27,8	Aldebaran,
	32 36 08	34 3 3	0	32 36 0,3	41 5 33,1	Rigel.
	69 26 18	74 0 9	— 10	69 26 17,3	41 5 17,5	β Tauri.
	48 24 37	51 2 18	0	48 24 47,1	41 5 08,8	α Orionis.
	57 6 02	60 3 20	+ 9	57 6 7,5	41 5 35,3	Aldebaran.
♂ — 13.						
Latitude					41 5 34	South.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations for the Longitude of the Place

1773	Time by the Clock		Apparent Time.	Altitude of the O's L L		Zenith Distance D's U L		Distance nearest Limbs of O and D		Barom Inches	Therm In Tent Out		Longitude East	
	H	M		H	M	H	M	H	M		°	'		
Dec 6	12	40 45	19 53 33,6	34 27	55 4 36	94 53 35	30,32	53½	50	174 01 01½				
		44 26		35 6	55 30 0	53 0								
		47 34		35 42	55 50 10	52 10								
		49 05		36 0	56 0 24	51 37								
		51 32		36 28	56 14 30	51 10								
	12	55 02	20 5 47,5	37 06	56 41 25	94 50 0	30,32	53½	50	174 25 0				
		57 04		37 30	56 55 20	49 0								
		59 01		37 54	57 10 12	48 10								
				38 10	57 21 5	47 0								
	13	0 36	20 37 45,3	43 22	60 55 36	94 37 0	30,32	53½	50	174 12 34½				
		31 15		43 52	61 18 50	35 55								
		33 13		44 17	61 34 50	35 45								
	14	13 39	21 23 9,3	51 39	67 29 0	94 19 40	30,32	56	51	174 14 34½				
		16 29		52 10	67 55 10	18 15								
		19 15		52 42	68 20 53	17 10								
				+ 4										
	— 7	11	7 22	18 17 12,7	16 37	44 15 10	83 8 35	30,30	52	54½	174 11 22½			
			14 10		17 52	6 4	6 17							
		18 21	18 36		1 18	5 25								
12		22 45	19 32 53,6	30 30	45 20 0	82 42 22	30,30	56	55	173 56 01½				
		26 45		31 15	33 30	41 15								
		28 46		31 37	41 10	40 40								
		30 44		32 0	48 18	40 20								
		32 15		32 17	54 12	39 55								
		33 52		32 36	46 0 30	39 10								
— 8		8	40 55	15 47 13,7	56 31	26 34	38 44 30	30,40	54	51½	174 16 26½			
			46 56		56 02	27 37	48 0							
			50 57		55 51	28 19	49 40							
			53 37		55 42½	28 42	51 10							
			57 12	15 58 18,0	55 31½	29 17	53 15	30,40	54	52	173 52 30			
					55 22	29 56	54 30							
		9	1 14		+ 4		- 6 27							
													Errors of the Quadrants	

ASTRONOMICAL OBSERVATIONS.

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Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock.		Apparent Time.	Altit. of the ☉'s L. L.		Zenith Distance ☉'s U. L.		Distance nearest Limbs of ☉ and ☿.	Barom. Inches.	Therim. In Tenths.		Longitude East.	
	H	M		°	'	°	'			°	'		°
8 Dec. 8.	10	59 26	18 09 57	14	40	43	37 22	70 27 25	30, 37	54	52	174 9 22½	
	11	2 15		15	10	43	21 36	26 15					
		4 28		15	35	43	9 0	26 0					
		6 58		16	0	42	56 25	25 50					
		8 46		16	20	42	46 36	25 10					
		10 43		16	39	42	36 42	25 0					
		12 23		16	58	42	28 41	24 20					
		13 58		17	16	42	21 0	23 40					
		15 45		17	34	42	12 20	22 30					
					+ 4	☉'s L. L.		— 3 30					Errors of the Quadrants.
9 — 10.	10	58 19	17 55 14, 2	13	25	37	21	43 49 36	30, 40	56	54	174 11 3	
	11	1 36		14	0	37	54	49 15					
	11	3 21		14	20	38	12	48 30					
Errors of the Quadrants as above.													
8 — 14.	3	19 50	10 1 56, 0	☿'s first satellite emerged: the air very clear, and ☿'s belts exceedingly distinct: Magnifying power 150.									174 15 30

Observations on the Tides.

1773.	Apparent Time.	Time by the Clock.	Height of the Water F. I.	Remarks.	1773.	Apparent Time.	Time by the Clock.	Height of the Water F. I.	Remarks.
		H					H		
8 Dec. 13.		13	16	1 6	8 Dec. 13.		15	35	1 6
		13	20	1 7			19	0	0 8½
		13	25	1 8			19	12	0 7
		13	30	1 9			19	34	0 6½
		13	38	1 10			19	50	0 7
		13	42	1 10½			20	13	0 8½
		13	47	1 11			14	0	1 9
		13	47	1 11½			14	5	1 10
	21 7	14	23	1 11½			14	15	2 0½
		14	55	1 11			14	25	2 02½
		15	1	1 10½			14	30	2 03½
			5	1 10			14	45	2 04½
			15	1 9			15	10	2 05½
			23	1 8		21 51			High Water.
			30	1 7			15	40	2 04½

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations on the Tides

1773	Appa rent Time	Time by the Clock		Height of the Water	Remarks.	1773	Appa rent Time.	Time by the Clock		Height of the Water	Remarks
	H	H	F	Y			H	H	F	Y	
8 Dec 14		15 47	2	3 $\frac{1}{2}$	Low Water	8 Dec 15		15 25	2	2	High Water
		15 53	2	2 $\frac{1}{2}$				15 41	2	3	
		16 03	2	0 $\frac{1}{2}$			22 39	16 1	2	4 $\frac{1}{2}$	
		16 15	1	10				16 25	2	3	
		16 22	1	9				16 35	2	2	
		19 50	0	9				16 45	2	0 $\frac{1}{2}$	
		19 56	0	8 $\frac{1}{2}$				16 51	1	11 $\frac{1}{2}$	
	3 5	20 25	0	7				17 5	1	10 $\frac{1}{2}$	
		20 55	0	8 $\frac{1}{2}$			24 — 16	20 40	0	8	
		20 58	0	9				20 47	0	7	
8 — 15		15 0	1	10 $\frac{1}{2}$			3 54	21 17	0	6	Low Water
		15 6	1	11 $\frac{1}{2}$				1 46	0	7	
		15 14	2	0 $\frac{1}{2}$				1 55	0	8	

In the foregoing Observations, Mr Bayley used two posts, as I did but the o, or begin-
ning of the divisions on that he found the high water by, was 4 feet and $\frac{3}{4}$ of an inch higher than
o on that whereby low water was estimated consequently, so much must be added to the dif-
ference of the heights of the water, as put down at these two times

Observations by Mr. Bayley, at the Cape of Good Hope.

1774.	Equal Altitudes. Times by the Clock C.			Zenith Distances.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire	Upper Wire.			
	H	H	H			
6 March 22.	21 40.	20 24 27	26 34	62 20 0	o 6 17,66	o's U. L. } o's L. L. } Easterly. o's U. L. } o's L. L. }
	24 29	20 26 56½	29 24			
	33 8	20 34 37½	37 5½			
	35 0½	20 37 29½				
23.	37 12	3 34 43½		60 20 0	o 8 18,70	o's L. L. } o's U. L. } Westerly. o's L. L. } o's U. L. }
	40 03½	3 37 35½	35 5½			
	47 41½	3 45 14	42 46½			
	50 31	3 48 4	45 37½			
	45 46½	19 48 7½	50 29½	70 0 0		o's U. L. } o's L. L. } Easterly. o's U. L. } o's L. L. }
	48 27½	19 50 51½	53 12½			
		20 6 46	9 8			
	7 4½	20 9 30½	11 52½			
	18 04	20 20 29	12 55	63 40 0		o's U. L. } o's L. L. }
	20 50½	20 23 19½	25 44			
24	55 51½	3 52 55½	50 30	63 40 0		o's L. L. } o's U. L. } Westerly. o's L. L. } o's U. L. }
	58 9½	3 55 44	53 18½			
	9 8	4 6 43	4 18½			
		4 9 29½	7 5½			
	27 41½	4 25 19½	22 58½	70 0 0		o's L. L. } o's U. L. } Easterly. o's L. L. } o's U. L. }
	30 24½	4 28 3½	25 42½			
25.		19 45 19½	47 40½			
	45 41½	19 48 3½		66 45 0	o 12 21,62	o's L. L. } o's U. L. } Westerly. o's L. L. } o's U. L. }
	8 43	20 11 8				
		20 13 55½				
26.		4 10 23		66 45 0		o's L. L. } o's U. L. } Easterly. o's L. L. } o's U. L. }
	15 34½	4 13 9½				
	38 36	4 36 16				
		4 38 57	36 38			
27.	20 37	21 23 20	26 05	54 40 0	o 16 25,08	o's U. L. } o's L. L. } Westerly. o's U. L. } o's L. L. }
	23 44½	21 26 30	29 14½			
		21 34 18	37 06			
	34 43½	21 37 34½				
28.		2 54 53		52 48 0		o's L. L. } o's U. L. } Easterly. o's L. L. } o's U. L. }
			55 20½			
		3	3 14			
		3 9 6				Cloudy.

Observations by Mr Bayley, at the Cape of Good Hope, Continued

1774-	Equal Altitudes Times by the Clock C			Zenith Distance.	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
	H	"	"			
8 March 29	Removed the Tent, Clock, &c. into another part of the garden, because where it had stood hitherto, the wind blew a great deal of sand and dust into the Observatory, which hurt the instruments but in doing of this, the length of the pendulum was not altered but the pendulum was secured as it was The Clock stood before facing the north, it now faced the south, so that in both cases the pendulum vibrated E and W or parallel to the Table Mountain nearly					
	26 45	7 30 4½	33 24½	} 58 30 0	9 56 40,12	Regulus East
	26 35½	12 23 16½	19 55			Regulus West
		20 24 16½	26 42½	} 69 40 0	0 35 32,56	O s U L
	24 39	20 —	29 28			O s L L
	37 21½	20 29 47½	42 1	} 66 40 0		O s U L
	40 10	20 42 37	45 5½			O s L L
	47 50	20 50 19	5 48½	} 64 40 0		O s U L
	50 40½	20 53 11	55 40			O s L I
8 — 30	20 0	4 17 31	14 59½	} 64 40 0		O s L L
	22 50	4 20 21½	17 53½			O s U I
	30 30½	4 28 1½	25 36	} 66 40 0		O s L L
	33 19½	4 30 51½	28 24			O s U L
	46 2½	4 —	41 10½	} 69 40 0		O s L L
		4 45 22	43 57½			O s U I
	56 48	20 59 17½	1 48	} 63 40 0		O s U I
	59 40	21 2 11½	4 43			O s I I
	7 38	21 10 16	12 40	} 61 40 0		O s U L
	10 29½	21 13 3½	15 36			O s L L
24 — 31	4 52	4 2 18	59 44	} 61 40 0	0 37 52,57	O s L L
	7 48½	4 5 15½	2 41½			O s U L
	15 41	4 13 9	10 37	} 63 40 0		O s I L
	18 32	4 16 3	13 32			O s U L
	23 49	20 26 13	28 38	} 70 40 0		O s U L
	26 35	20 29 0	31 25½			O s L L
	35 51	20 38 20	40 44	} 68 20 0		O s U L
	38 38½	20 41 06	43 32			O s L L
9 April 1	41 17	4 38 49	36 22½	} 68 20 0	0 40 10,64	O s L L
		4 1 39	39 12½			O s U L
	53 11	4 50 56	48 29½	} 70 40 0		O s L L
	56 7	4 53 42½	51 17			O s U L
	36 13½	20 38 39½	41 17½	} 70 20 0		O s U L
	39 0½	20 41 2½	43 5½			O s L L
		20 50 54	53 22½	} 68 0 0		O s U L
	51 14½	20 53 44				O s L L

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

1773.	Equal Altitudes. Times by the Clock C.			Zenith Distance.	Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
○ April 3.		21 59 52	2 43	55 40 0		○'s U. L. } Easterly. ○'s L. L. }
— 4.	0 18 $\frac{1}{2}$	22 3 9			0 47 12,0	
	33 42 $\frac{1}{2}$	3 30 52		55 40 0		○'s L. L. } ○'s U. L. }
	42 43 $\frac{1}{2}$	3 34 8 $\frac{1}{2}$	31 17 $\frac{1}{2}$	68 0 0		○'s L. L. } Westerly. ○'s U. L. }
	54 55 $\frac{1}{2}$	4 40 13 $\frac{1}{2}$	40 36 $\frac{1}{2}$	70 20 0		○'s L. L. } ○'s U. L. }
	57 45	4 43 5 $\frac{1}{2}$	50 02	70 20 0		○'s L. L. } ○'s U. L. }
	39 51	4 52 29 $\frac{1}{2}$	52 51 $\frac{1}{2}$	70 20 0		○'s L. L. } ○'s U. L. }
	42 37 $\frac{1}{2}$	4 55 17 $\frac{1}{2}$	44 43 $\frac{1}{2}$	68 0 0		○'s L. L. } Easterly. ○'s U. L. }
	52 3 $\frac{1}{2}$	20 42 15 $\frac{1}{2}$	57 02	65 0 0		○'s L. L. } ○'s U. L. }
	54 54 $\frac{1}{2}$	20 45 6	59 54		0 49 33,30	
	8 05	20 57 24 $\frac{1}{2}$	13 11 $\frac{1}{2}$	65 0 0		○'s L. L. } ○'s U. L. }
	11 01 $\frac{1}{2}$	21 10 38 $\frac{1}{2}$				
— 5.		21 13 34				
	27 41 $\frac{1}{2}$	21 13 34		65 0 0		○'s L. L. } ○'s U. L. }
	30 35 $\frac{1}{2}$	4 25 09 $\frac{1}{2}$	25 31	68 0 0		○'s L. L. } Westerly. ○'s U. L. }
	43 46 $\frac{1}{2}$	4 28 4	38 46 $\frac{1}{2}$	70 20 0		○'s L. L. } ○'s U. L. }
	46 36 $\frac{1}{2}$	4 41 17 $\frac{1}{2}$	41 38 $\frac{1}{2}$	70 20 0		○'s L. L. } Easterly. ○'s U. L. }
	56 3 $\frac{1}{2}$	4 44 7 $\frac{1}{2}$			0 51 54,655	
	58 49 $\frac{1}{2}$	4 53 36	53 57 $\frac{1}{2}$	67 0 0		○'s L. L. } ○'s U. L. }
	43 25 $\frac{1}{2}$	4 56 24 $\frac{1}{2}$	48 21	67 0 0		○'s L. L. } Westerly. ○'s U. L. }
	46 14	20 45 52 $\frac{1}{2}$				
	1 03	20 48 42 $\frac{1}{2}$	6 2 $\frac{1}{2}$	66 45 0		○'s L. L. } Easterly. ○'s U. L. }
	3 53 $\frac{1}{2}$	21 3 31 $\frac{1}{2}$	8 57			
— 6.		21 6 25				
	39 31	21 6 25		67 0 0		○'s L. L. } ○'s U. L. }
	42 23 $\frac{1}{2}$	4 36 59 $\frac{1}{2}$	34 28 $\frac{1}{2}$	70 20 0		○'s L. L. } Westerly. ○'s U. L. }
	57 9 $\frac{1}{2}$	4 39 52 $\frac{1}{2}$	37 22 $\frac{1}{2}$	72 40 0		○'s L. L. } ○'s U. L. }
	59 58 $\frac{1}{2}$	4 54 41 $\frac{1}{2}$	55 04	68 40 0		○'s L. L. } Easterly. ○'s U. L. }
— 9.	45 38	4 57 31 $\frac{1}{2}$	50 33 $\frac{1}{2}$			
	48 25 $\frac{1}{2}$	20 48 5	53 22 $\frac{1}{2}$	66 45 0		○'s L. L. } ○'s U. L. }
	6 49	20 50 54 $\frac{1}{2}$	11 52			
	9 42 $\frac{1}{2}$	21 9 20 $\frac{1}{2}$	14 47			
	17 10 $\frac{1}{2}$	21 12 15 $\frac{1}{2}$	22 19 $\frac{1}{2}$			
	20 06 $\frac{1}{2}$	21 19 44 $\frac{1}{2}$	25 16			
— 10.		21 22 41				
	42 16	21 22 41		66 45 0		○'s L. L. } ○'s U. L. }
	45 13 $\frac{1}{2}$	4 39 41 $\frac{1}{2}$	37 6 $\frac{1}{2}$			
		4 42 39 $\frac{1}{2}$	40 04 $\frac{1}{2}$			

Observations by Mr Bayley, at the Cape of Good Hope, Continued

1773	Equal Altitudes Times by Clock C			Zenith Distance	Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H	"			
O April 10	52 41	4 50 8½	47 36	68 40 0		O's L L
	55 33½	4 53 2½	50 31			O's U L
	13 55½	5 11 29	9 0	72 40 0		O's L L
	16 44½	5 14 17½	11 49½			O's U L

*** It is manifest, at first sight, that the clock went considerably faster after it was taken down than it did before Mr Bayley remarks, that he is absolutely certain that no alteration happened in the length of the pendulum, but does not attempt to assign any other cause, which indeed does not seem easy to be done When it was first set up, the pendulum vibrated 1° 44 each way from the perpendicular, or point of rest, and increased its vibrations regularly, until it was removed, when its vibrations were 1° 48 each way After it was removed, the vibrations were from 1° 46 to 1° 47 each way

Computations of the going of Clock C

1774	Time of apparent Noon by the Clock	Syderal Time of apparent Noon	Clock flow of Syderal Time	Clock loses on Syderal Time
H March 23	0 6 17 66	0 10 36 5	4 18 84	1 36 66
H — 24	0 8 18 70	0 14 14 2	5 55 50	1 36 35
H — 26	0 12 21 62	0 21 29 82	9 08 20	1 35 96
H — 28	0 16 25 08	0 28 45 2	12 20 12	1 36 327
Removed the Observatory Clock				
H — 30	0 35 32 56	0 36 00 8	0 28 24	1 17 79
H — 31	0 37 52 57	0 39 38 6	1 46 03	1 19 87
H April 1	0 40 10 64	0 43 16 54	3 05 90	1 17 97
H — 4	0 47 12 00	0 54 11 8	6 54 80	1 17 40
H — 5	0 49 33 30	0 57 50 5	8 17 20	1 17 44
H — 6	0 51 54 66	1 1 29 3	9 34 64	1 17 08
H — 10	1 1 24 12	1 16 07 1	24 42 08	1 17 925

Observations for the Variation

1774	Zenith Distance O's U L	Azimuth of the ☉ & ☽ Center	Variation West
24 April 7	74 0 5	S 87 37 $\frac{1}{2}$ R	21 59 10
	73 0 40	88 47 $\frac{1}{2}$	
	72 15 32	S 89 30 R	
	71 46 27	90 0	21 30 00
	71 13 10	91 0	
2 — 8	70 39 42	S 86 42 $\frac{1}{2}$ R	
	75 10 23	88 12 $\frac{1}{2}$	21 27 46
	73 16 20	89 0	
	71 55 12	N 46 35 W	
	72 43 31	47 17 $\frac{1}{2}$	21 25 50
	73 13 12	48 30	
The mean is			21 35 West

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Computations of the going of Mr. Arnold's Watch (No. 1).

1774.	Time of Comparison by the Clock.			Time of Comparison by Watch.			Watch slower than the Clock.			Watch loses on the Clock.		Interval between the Comparisons.		Watch loses on the Clock in 24 hours.		Clock loses on Syderial Time.		Watch loses on Syderial Time.		Watch loses on mean Time.				
	H	M	S	H	M	S	H	M	S	H	M	H	M	H	M	H	M	H	M	H	M			
# March 23.	0	20	1	17	35	6	45	01	3	24	24	20	3	21,20	1	36,66	4	57,86	1	01,36				
24. — 24.	0	43	25	17	56	6	48	25	3	19	23	40	3	21,80	1	36,35	4	58,15	1	01,65				
25. — 25.	0	26	44	17	35	6	51	44	3	21	23	39	3	23,94	1	36,35	5	00,29	1	03,79				
26. — 26.	0	9	5	17	14	6	55	5	3	20½	23	51	3	21,76	1	35,96	4	57,72	1	01,22				
27. — 27.	0	3	25½	17	05	6	58	25½	3	25	24	09	3	23,74	1	35,96	4	59,70	1	03,20				
28. — 28.	0	15	50½	17	14	7	1	50½	Clock removed															
29. — 29.	0	46	05½	17	26	7	20	5½	3	41½	23	53	3	42,83	1	17,79	5	00,62	1	04,12				
30. — 30.	0	42	47	17	19	7	23	47	3	42½	24	14	3	40,34	1	17,79	4	58,13	1	01,63				
31. — 31.	1	0	29½	17	33	7	27	29½	3	39½	23	52	3	40,49	1	19,87	5	00,36	1	03,86				
# April 1.	0	56	8½	17	25	7	31	8½	3	36½	23	27	3	41,16	1	17,97	4	59,13	1	02,63				
2. — 2.	0	26	45	16	52	7	34	45	3	46	24	24	3	42,28	1	17,97	5	00,25	1	03,75				
3. — 3.	0	54	31	17	16	7	38	31	3	49	24	33	3	44,09	1	17,97	5	02,06	1	05,56				
4. — 4.	1	31	20	17	49	7	42	20	3	40½	23	41	3	43,44	1	17,40	5	00,84	1	04,34				
5. — 5.	1	14	0½	17	30	7	46	0½	3	44½	23	55	3	45,02	1	17,44	5	02,46	1	05,96				
6. — 6.	1	14	44½	17	25	7	49	44½	3	42½	23	40	3	45,34	1	17,08	5	02,42	1	05,92				
7. — 7.	0	58	27	17	5	7	53	27	3	40	23	30	3	44,44	1	17,08	5	01,52	1	05,02				
8. — 8.	0	32	7	16	35	7	57	7	3	52	24	45	3	45,23	1	17,08	5	02,31	1	05,81				
9. — 9.	1	20	59	17	20	8	0	59	3	38	23	23	3	43,53	1	17,08	5	00,61	1	04,11				
10. — 10.	0	47	37	16	43	8	4	37																
Mean rate of the Watch																		1	3,76					

Meridian Zenith Distances of the Sun and Stars for the Latitude of the Place.

1774.	Zenith Distances.				Exterior Arch reduced.	Barom.	Therm.	Latitude.	Phenomena.					
	Interior Arch.		Exterior Arch.											
	°	'	°	'	G. S. V.	+	°	'	°	'				
☿ March 25.	36	6	40				30,00	72	33 54 52½	☉'s L. L.				
	35	34	20	37	3	24				25	35	34	24	☉'s U. L.
♂ — 29.	37	40	30				30,15	66	33 54 29	☉'s U. L.				
	37	8	0	39	2	14				0	37	8	1½	☉'s L. L.
♀ — 30.	23	56	0	25	2	3	19	23	56	0	29,97	60	33 55 2½	Spica ♀.
☿ April 1.	27	54	23	29	3	2	13	21	54	42	30,01	57½	33 55 55½	α } Crucis;
	24	30	42	26	0	19	0	24	30	51	30,01	57½	33 55 57½	β }
☉ — 3.	39	36	15								30,08	66	33 55 14	☉'s U. L.
	39	4	0	41	2	21	18	39	3	54				☉'s L. L.

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance D's L. L.	Distance D from ☉ or *.	Barom.	Therm.		Longitude East.	
	H M S	H M S	° ' "	° ' "		In Fent.	Out	° ' "	
March 29.	12 35 54	12 11 16	34 16 10	69 23 40	30.10	59½	57	18 17 0	☉ and Regulus.
	40 34		33 31 50	25 0					
	44 3		33 0 27	25 30					
	47 31		32 29 7	26 42					
	51 40		31 52 40	27 45					
	54 22		31 30 0	29 45					
				— 6 30	Errors of the Quadrant.				
	13 0 46	12 33 46	30 36 0	31 45 10	30.10	59½	57	18 24 25	☉ and Antares.
	4 8		30 8 30	43 15					
	6 47		29 48 20	41 45					
	9 11		29 30 0	41 05					
	12 40		29 3 44	40 10					
	15 47		28 41 22	39 0					
				— 6 30	Errors of the Quadrant.				
April 1.	21 16 19	20 41 18	52 52 38	108 39 30	30.02	68	68	18 29 15	☉ and ☽.
	20 01		53 36 42	37 40					
	22 33		54 7 30	36 47					
	24 51		54 35 27	35 30					
	27 18		55 04 40	34 37					
	29 55		55 36 4	33 10					
	21 32 37	20 56 19	56 9 50	108 32 12	30.02				
	35 16		56 40 0	30 50					
	37 36		57 9 42	30 0					
	39 30		57 31 15	29 30					
	41 41		57 57 27	28 10					
	44 31		58 31 18	26 47					
				— 4 10	Errors of the Quadrant.				
	b —	2. 21 36 37	20 57 2	44 42 33	95 10 0	30.06	66½	67	18 21 30
39 37		45 18 20		8 10					
41 49		45 44 22		6 30					
43 52		46 9 0		6 0					
46 5		46 35 47		5 0					
				— 4 10	Errors of the Quadrant.				

Observations by Mr Bayley, at the Cape of Good Hope, Continued

Lunar Observations for the Longitude

1774	Time by the Clock		Apparent Time	Zenith Distance D S U L	Distance of the O and D's Limbs	Barom	Therm		Longitude East	
	H	'					In Tent.	Out		
h April 2	21	48 10	21 06 16 $\frac{1}{2}$	47 0 37	95 4 30	30,06	66 $\frac{1}{2}$	67	18 13 39	O and D
		49 58		47 22 0	3 20					
		51 34		47 41 25	3 0					
		53 42		48 7 0	1 40					
D — 4	21	49 57	21 7 30 $\frac{1}{2}$	27 17 42	68 49 50	30,0	61	66	18 18 0	O and D
		53 02		27 48 0	49 4					
		55 33		28 12 10	47 30					
		58 08		28 37 37	47 0					
	22	0 48	21 21 34 $\frac{1}{2}$	29 3 15	46 28	30,0	61	66	18 24 10	O and D
		3 10		29 28 20	45 47					
	22	5 20		29 50 30	44 40					
		7 20		30 10 43	44 0					
		9 33	21 21 34 $\frac{1}{2}$	30 33 25	43 28	30,0	61	66	18 24 10	O and D
		11 55		30 58 17	42 20					
		14 16		31 3 27	41 27					
		16 46		31 49 30	41 0					

Observations on the Tides

1774.	Height of the Water		Time by the Clock	Appa rent Time	Remarks	1774	Height of the Water		Time by the Clock	Appa rent Time	Remarks
	F	I					F	I			
h April 9.	2	4	20 20	20 24,0	Low Water	h April 9	2	1 $\frac{1}{2}$	21 40	2 26,0	High Water
	2	3	20 25				2	2 $\frac{1}{2}$	21 45		
	2	2	20 35				2	3	21 50		
	2	1 $\frac{1}{2}$	20 40				2	4	21 55		
	2	1 $\frac{1}{2}$	20 50				1	4	3 1		
	2	2 $\frac{1}{2}$	21 0				1	4 $\frac{1}{2}$	3 5		
	2	1 $\frac{1}{2}$	21 10				1	5	3 10		
	2	0 $\frac{1}{2}$	21 20				1	5	3 15		
	2	0 $\frac{1}{2}$	21 25				1	5	3 20		
	2	0 $\frac{1}{2}$	21 30				1	5 $\frac{1}{2}$	3 25		
	2	0 $\frac{1}{2}$	21 35				1	5 $\frac{1}{2}$	3 30		

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Observations on the Tides.

1774.	Height of the Water.		Time by the Clock.		Remarks.	1774.	Height of the Water.		Time by the Clock.		Remarks.
	F.	I.	H.	H.			F.	I.	H.	H.	
☉ April 10.	1	5 $\frac{1}{2}$	3	35		☉ April 10.	1	4	3	55	
	1	5	3	40			1	3 $\frac{1}{2}$	4	0	
	1	4 $\frac{3}{4}$	3	45			1	2 $\frac{1}{2}$	4	5	
	1	4 $\frac{1}{2}$	3	50			1	2	4	10	

The above Observations were made in the same manner as those which Mr. Bayley made at New Zealand and Otaheite; but it is to be noted, that the \odot , or beginning of the divisions of his instrument, was placed five feet seven inches higher at the time of high water, than it was at low; from which quantity, if seven inches, the difference of the heights of high and low water, by the instrument, be subtracted, there will remain five feet for the quantity which the tide flowed on this day.

Observations made on the Island Ohitahoo, one of the Marquesas.

Observations for the Latitude.

1774.	"	'	
☉ April 9.	35	18	
☉ — 10.	36	3	

Supplement to the double altitude of the \odot 's L. L. Error of the Quadrant, $1' \frac{3}{4}$ to be added.

Ditto. Error of the Quadrant, $1' 50''$ to be added.

The first of these Observations gives $9^{\circ} 55' \frac{1}{2}$ South for the Latitude; and the latter $9^{\circ} 55' \frac{3}{4}$. They were taken from a quicksilver horizon with a Hadley's Sextant, and by the back Observation.

Observations made on the Island Ohitahoo, one of the Marquesas, Continued

Observations for the Dip of the Magnetic Needle's South End

1774	Face of the Instrument		Face of the Instrument		Face of the Instrument	
	East.	West	East	West	East	West
	°	°	°	°	°	°
	19 30	19 15	18 30	19 20	11 30	11 20
	19 45	18 13	17 50	19 30	11 40	11 3
	17 30	17 10	15 50	19 40		
	18 0	17 45	15 40	19 0		
	18 05	18 05	16 0	19 0		
	18 10	18 15	15 50	19 05		

The above Observations were made on three different days, the guard not staying long enough on shore to permit me to take more at one time, nor even to balance the Needle with more accuracy. I imagined that I had changed the Poles of the Needle between every day's Observations; but the near agreement which is between the first and second and the great disagreement between these and the Observations of the third day, incline me to believe that I made some mistake, and did not actually change them the first time.

Observations on the Tides

The high surf and small time that I had an opportunity of being on shore, rendered it impossible for me to make either very accurate or very regular Observations of this kind; but I gathered, in the best manner I could, that it was high water on $\frac{1}{2}$ April 8, 1774, about one o'clock in the afternoon, and that it had fallen about $3\frac{1}{2}$ feet at seven o'clock, when I went on board, and I believe it was near, if not quite, low water. I got no Observations on the 9th; but on the 10th it was low water about nine in the morning, and high water about three in the afternoon, certainly not sooner, and the water flowed nearly four feet. It was low water on the morning the 11th, about 10 o'clock, and the water ebbed out, from the last night's tide, about four feet. It will readily be understood, that too much stress must not be laid on these Observations when I declare that the surf generally broke on the shore as high as myself.

I had no Observations for determining the Longitude of this place while here, except by the watch; but by the mean of a great many taken, some before we arrived, and others after we left the place, and reduced very carefully by the watch, it appeared to be $220^{\circ} 51\frac{1}{2}$ East.

Observations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Time by the Clock B			Zenith Distances	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H		"	H	
O May 1	18 28 ¹	5 16 12	13 54	} 51 0 0	2 37 54,68	O's L L } Westerly O's U I }
	21 18 ¹	19 1	16 44 ¹			
D — 2	47 11 ¹	23 49 28 ¹	51 43	} 53 40 0	2 42 46,73	O's U I } Westerly O's L L } Easterly
	49 59	52 14 ¹	54 29			
J — 3	35 21 ¹	5 33 06	30 51	} 53 40 0	2 45 14,18	O's L L } Westerly O's U I }
	38 08	35 53 ¹	33 39			
	54 51	22 56 56	59 0	} 65 0 0	2 50 10,05	O's U I } Westerly O's L L } Easterly
	57 26	59 30	1 33			
	33 37 ¹	23 35 48 ¹	37 59	} 57 0 0	2 52 39,15	O's U L } Westerly O's L L }
	36 19	38 30	40 42			
E — 4	53 56	5 51 44	49 32	} 57 0 0	2 55 08,38	O's I I } Westerly O's U I }
	56 38	54 25	52 14			
	32 53	6 30 46 ¹		} 65 0 0	2 58 39,15	O's L L } Westerly O's U I }
	35 25	33 21	31 18			
U — 5	38 29	23 40 41	42 52 ¹	} 57 20 0	2 59 10,05	O's U I } Westerly O's L L }
	41 11 ¹	43 24	45 36			
	48 37	23 50 52 ¹	53 7	} 55 20 0	2 59 10,05	O's U L } Easterly O's L L }
	51 23	53 38 ¹	55 54			
F — 6	48 43 ¹	5 46 28 ¹	44 14 ¹	} 55 20 0	2 59 10,05	O's L I } Westerly O's U L }
	51 29 ¹	49 14	47 0			
	58 56	5 56 43 ¹	54 31	} 57 20 0	2 59 10,05	O's L L } Westerly O's U L }
	1 39	59 27 ¹	57 14 ¹			
	0 59 ¹	23 3 6	5 10	} 65 40 0	2 59 10,05	O's U L } Easterly O's L L }
	3 35 ¹	5 40 ¹	7 44			
	45 8	23 47 22	49 35	} 56 40 0	2 59 10,05	O's U L } Easterly O's L L }
	47 51 ¹	50 06	52 20			
H — 7	57 13	5 55 0		} 56 40 0	2 59 10,05	O's L L } Westerly O's U L }
	59 58 ¹	57 45 ¹	55 32			
	41 31 ¹	6	37 20 ¹	} 65 40 0	2 59 10,05	O's L L } Westerly O's U L }
		6 42 0	39 56			
		23 27 15 ¹		} 61 20 0	2 59 10,05	O's U L } Easterly O's L L }
	27 44					
	31 41	23 33 52 ¹	36 02	} 60 0 0	2 59 10,05	O's U L } Easterly O's L L }
	34 21	36 32 ¹	38 40 ¹			
O — 8	15 44	6 13 32 ¹	11 22	} 60 0 0	2 59 10,05	O's L L } Westerly O's U L }
	18 24	16 14 ¹	14 04			

Observations made on Point Venus, in Otaheite, Continued.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
☉ May 8.	22 18 $\frac{1}{2}$			61 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
	38 13 $\frac{1}{2}$	6 22 48 $\frac{1}{2}$	42 34	59 20 0		☉'s U. L. } ☉'s L. L. } Easterly.
	40 54 $\frac{1}{2}$	43 6	45 18	56 40 0		☉'s U. L. }
	51 44 $\frac{1}{2}$	23 53 58	56 13			☉'s L. L. }
	54 29	56 44	59 0		2 57 39,25	
☾ — 9.	0 37	5 58 22	56 6 $\frac{1}{2}$	56 40 0		☉'s L. L. } Westerly. ☉'s U. L. }
	3 23	6 1 9	58 55	59 20 0		☉'s L. L. }
	14 11 $\frac{1}{2}$	6 11 59	9 49			☉'s U. L. }
	16 53		12 31 $\frac{1}{2}$			

1774.	Equal Altitudes. Times by the Watch K.			Zenith Distance.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
☾ April 22.	33 33	8 35 53 $\frac{1}{2}$	38 16 $\frac{1}{2}$	45 0 0		☉'s U. L. } Easterly: ☉'s L. L. }
☾ — 23.	36 26	38 50 $\frac{1}{2}$	41 13		10 53 34,72	☉'s L. L. } Westerly. ☉'s U. L. }
	10 32 $\frac{1}{2}$	13 8 11	5 49	45 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
☾ — 25.	13 26 $\frac{1}{2}$	11 5	8 45	49 40 0		
	12 20	8 14 34 $\frac{1}{2}$	16 49		10 53 39,55	☉'s L. L. } Westerly. ☉'s U. L. }
☾ — 26.	15 05	17 20 $\frac{1}{2}$	19 36	55 40 0		☉'s U. L. } Easterly. ☉'s L. L. }
	32 0	13 29 45	27 28 $\frac{1}{2}$	49 40 0		☉'s L. L. } Westerly. ☉'s U. L. }
☾ — 28.	34 47	32 32	30 17	55 40 0		☉'s U. L. } Easterly. ☉'s L. L. }
	45 2 $\frac{1}{2}$	7 47 12	49 20		10 53 46,57	☉'s L. L. } Westerly. ☉'s U. L. }
☾ — 29.	47 41 $\frac{1}{2}$	49 51	52 0 $\frac{1}{2}$	64 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
	59 39 $\frac{1}{2}$	13 57 29	55 18 $\frac{1}{2}$	55 40 0		
	2 17	14 0 10	58 01		10 53 51,15	☉'s L. L. } Westerly. ☉'s U. L. }
	4 22 $\frac{1}{2}$	7 6 27	8 27 $\frac{1}{2}$	64 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
☾ — 30.		8 57	10 58			
	40 34	14 38 33	36 30	64 20 0		☉'s L. L. } Westerly. ☉'s U. L. }
	43 7	41 04	39 01 $\frac{1}{2}$	51 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
	10 32 $\frac{1}{2}$	8 12 51	15 08		10 53 53,68	☉'s L. L. } Westerly. ☉'s U. L. }
☉ May 1.	13 21	15 38	17 55 $\frac{1}{2}$	51 0 0		
	34 12	13 31 55	29 38			
	37 2	34 44	32 28 $\frac{1}{2}$			

Observations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Times by the Watch K			Zenith Distance	Time of apparent Noon by the Watch	Phenomena and Remark
	Lower Wire	Middle Wire	Upper Wire			
		H		°	II	
8 May 3	4 7 6 41 42 49½ 45 31	7 6 12 8 45 7 45 0½ 47 42	8 15 10 48 47 11 49 54	65 0 0 57 0 0		O S U I O S L I O S U I O S L I } Easterly
4	2 31 5 13 41 24 43 55 42 56½ 45 38½ 53 3 55 49	14 0 19 3 0 14 39 18½ 41 51½ 7 45 8 47 50½ 7 55 19 58 04½	58 08 0 49½ 39 49 47 19½ 50 03 57 33 0 19½	57 0 0 65 0 0 57 20 0 55 20 0	10 54 7.56	O S I I O S U L O S L L O S U I O S L I O S U L O S I L } Easterly
5	52 34½ 55 20 2 46 5 28½ 47 12 49 55	13 50 20 53 5½ 14 0 33½ 3 17½ 7 49 25 52 9½	48 6 50 51½ 58 21 1 4½ 51 38½ 54 25½	55 20 0 57 20 0 56 40 0	10 54 18.87	O S I I O S U I O S L L O S U L O S U L O S L L } Easterly
6	58 40½ 1 25 31 26 34 5	13 56 27½ 59 12½ 7 33 36½ 36 16½	56 59½ 56 59½ 35 46 38 27	56 40 0 60 0 0	10 54 24.69	O S L I O S U L O S U L O S L L } Easterly
7	14 48½ 17 28 38 14½ 49 03½ 51 47½	14 12 37½ 15 19 7 37 45 40 26 7 51 17 54 2½	10 27 13 8½ 39 54 42 37½ 53 31½ 56 18½	60 0 0 59 20 0 56 40 0	10 54 33.19	O S L I O S U L O S U I O S L L O S U L O S L L } Easterly
8	57 19½ 0 5 10 53½ 13 34	13 55 5 57 51½ 14 8 40½ 9 12	52 49½ 55 38 6 29½ 9 12	56 40 0 59 20 0	10 54 39.74	O S L L O S U L O S L L O S U L } Easterly

The Clock was fixed up in the usual manner, and the pendulum, in general, while here, vibrated 1° 35 each way from the perpendicular

Observations made at Point Venus, in Otaheite, Continued.

1774.	Meridian Zenith Distances.				Exterior Arch reduced.	Barom. Inches.	Thermom.		Phenomena and Remarks.
	Interior Arch.	Exterior Arch.					In Tent	Out.	
	° ' "	G.	S.	V.	+ "		° ' "		
2 May 4.	33 6 25	35 1 9		5	33 6 51	30,03	88½	93	○'s U. L.
	33 38 20	35 3 17		9	33 38 33				○'s L. L.
4 — 5.	33 56 7	36 0 26		24	33 56 49½	30,02	87½	94½	○'s L. L.
	33 23 28	35 2 15		13	32 23 41				○'s U. L.
	39 55 40	42 2 12		18	39 56 12	30,02	72	72½	α Pavonis.
	61 56 30	66 0 9		16	61 56 43				α Cygni.
2 — 6.	33 40 25	35 3 21		20	33 40 30	30,02	90	97	○'s U. L.
	34 12 15	36 1 30		12	34 12 27				○'s L. L.
	39 55 55	42 2 13		4	39 56 24	30,03	71½	72½	α Pavonis.
	61 56 37	66 0 10		0	61 56 54				α Cygni.
5 — 7.	34 29 38	36 3 6		15	34 30 4	30,03	88½	91½	○'s L. L.
	33 57 8	36 0 28		20	33 57 38				○'s U. L.
	61 17 7	54 2 27		12	51 17 29½	30,03	80½	81	β Navis.
	30 32 52	32 2 11		18	30 33 15½	30,03	78	79½	Regulus.
	39 55 57	42 2 13		10	39 56 30	30,03	69½	70½	α Pavonis.
	61 56 45	66 0 10		8	61 57 2				α Cygni.
3 — 9.	34 30 0	36 3 7		5	34 30 21	30,03	84	91	○'s U. L.
	35 02 22½	37 1 16		20	35 2 40½				○'s L. L.
	51 17 25	54 2 28		7	51 18 2½	30,03	76½	77½	β Navis.
	30 32 42	32 2 11		8	30 33 5½	30,03	75	76	Regulus.
	38 27 15	41 0 3		10	38 27 44				γ Leonis.
	8 24 55	8 3 29		25	8 25 21	30,03	73	72½	Antares.
3 — 10.	30 32 37	32 2 10		12	30 32 43	30,03	73½	77½	Regulus.
	38 27 12	41 0 3		15	38 27 49				γ Leonis.

For the Error of the Line of Collimation of the Quadrant.

1774.	Zenith Distance of the Upper Hole. Quadrant direct.				Zenith Distance of the Lower Hole. Quadrant inverted.				Errors.	
	Interior Arch.		Exterior Arch.		Interior Arch.		Exterior Arch.		Interior Arch.	Exter. Arch.
	° ' "	"	G. S. V.	+ "	° ' "	"	G. S. V.	+ "	"	V. "
May 3.	89 36 28		95 2 11	5	90 24 12		96 1 23	15		
Evening.	32		11	3	0		23	4	-16½	-1 4½
	25		10	20	0		23	3		
	30		11	6	04		23	7		
	89 35 55		95 2 9	15	90 25 12		96 1 25	0		
Morning.	50		9	10	25 5		25	12	-24½	-1 8
	50		9	8	25 5		25	20		
	48		9	10	25 0		25	10		
	40		9	5	24 55		25	0		
	45		9	7	24 55		25	0		

Observations at Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance of the ☉ or *.	Altitude, or Zenith Distance of the ☽.	Distance of the ☽'s L. from the ☉ or *.	Barom.	Therm.	Longitude East.	Remarks, &c.
	H	H	°	°	°			°	
♂ April 25.	12 39 33			18 11½ U. L.	53 55½				
	41 51			17 41½	53 56				
	44 31			17 14½	53 57				
	46 31		49 01½	16 56½	53 58½			30,05 72½ 210 54 06	♂ and Regulus, west of her.
	50 02			16 19	53 59½				
	52 52			15 47	54 0				
				— 21"½	— 2' 36"				Error of the Quadrants.
	13 10 35			13 23½	46 23				
	13 16			13 04	23				
	16 41			12 39½	22			30,05 72½ 210 12 15	♂ and Antares, east of her.
	21 1		44 57½	12 16½	20½				
	23 7			12 11½	18½				
	26 41			11 57½	17½				
♂ — 26.	11 55 54			37 59½ U. L.	68 19½				
	11 58 32			37 52½	20½				
	12 0 43			36 52½	22			30,07 73½ 211 05 0	♂ and Regulus, west of her.
	12 02 41		41 14½	36 25	22½				
	12 04 21			36 01½	23				
	12 06 24			35 32½	23½				
				— 21"½	+ 2' 35"				Error of the Quadrants.
	12 16 08			33 18½	31 52				
	18 56			32 39½	51				
	20 22			32 20	50½			30,07 73½ 210 29 15	♂ and Antares, east of her.
	22 05		57 28½	31 56½	49½				
	23 56			31 31½	49				
	27 56			30 35½	47½				
♂ — 27.	11 40 44			54 59½ L. L.	30 31½				
	43 01			54 29½	31½			30,08 77 210 4 9	♂ and Spi. or, west of her.
	45 02		25 37½	54 0½	31½				
	46 25			53 41½	34½				
				— 21"½	+ 2' 59"				Error of the Quadrants.
	15 9 28	12 38 53,4	♂ immersed behind the ☽'s bright Limb.						Very certain.
♂ — 29.	12 31 54		67 55½ U. L.	23 12 U. L.	133 25				
	33 46		67 31	22 53	24½				
	36 0		67 02½	22 23	23½			30,02 81 210 40 7½	♂ and ☽ by the back observation.
	37 55		66 37½	21 53	22½				
	39 44		66 14	21 31	21½				
			— 21"½	+ 1' 2"	+ 1' 8"				Error of the Quadrants.
♂ — 30.	19 8 54			6 05½ U. L.	33 29				
	10 58			6 31	29				
	12 29			6 51½	30				
	14 4			7 13	30½				
	16 20			7 33	30½			30,02 76½ 210 3 45	♂ and Antares, west of her.
	16 49		41 35	7 51½	31½				
	18 18			8 11½	31½				
	19 43			8 30½	32½				
	21 15			8 51	32½				
				— 21"½	+ 2' 50"				Error of the Quadrants.

Observations made at Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	Zenith Distance of the ☉ or *	Altitude or Zenith Distance of the ☾	Distance of the ☉ & L. from the ☉ or *	Barom	Therm	Longitude	Remark
	H	H	°	°					
h April 30	19 24 47			9 41 U L	70 47				
	26 43			10 08	46				
	28 08			10 37½	45½				
	29 21			10 45½	45				
	30 46		59 53½	11 5	45				
	32 25			11 27	44	30 02	76°	210 17 56	☉ and ☾ at just east of her
	34 4			11 50½	44				
	36 30			12 24½	43				
	38 13			12 40½	42½				
	39 53			13 12½	41½				
	21 12 0		72 42½ U L	41 47 U L	119 49½				
	14 5		72 15½	41 17	49				
	15 25		71 58½	40 57	48	30 03	79	210 8	☉ and ☾
	16 26		71 44½	40 45	48				
			— 21 ½	+ 1 32	+ 2 50'	Errors of the Quadrants			
	22 21 24		70 39½ U L	39 58 U L	45½				
	22 33		70 24½	39 18	44½				
	23 35		70 10½	39 7	44½	30 03	79	210 11 15	☉ and ☾
	24 35		69 58	38 53	44				Errors as above
	26 14		69 16½	38 29	44				
☉ May 1	22 8 13		74 11½ L L	56 24	106 21				
	10 53		73 35	55 50	20				
	12 27		73 16	55 27	19½				
	14 02		72 55	55 5	18½				
	15 50		72 31½	54 42	17½				
	17 40		72 7	54 17	17	30 04	79	209 44 15	☉ and ☾
	19 19		71 45½	53 52	16½				
	20 51		71 25½	53 27	16½				
	22 46		71 0½	53 4	15½				
	24 30		70 37½	52 39	15				
			— 21 ½	+ 4 37	+ 2 45	Errors of the Quadrants			
	2 7 41			22 15½ L L	61 30½				
	10 15			21 40½	30½				
	11 48			21 17½	31½				
	13 37			20 51½	32				
	15 43			20 22	32½				
	17 26		42 0½	20 0	33½	30 04	74	210 18 30	☉ and An- tures west of her
	20 0			19 34	33½				
	21 56			18 57	34½				
	24 5			18 26	35				
	25 53			18 2	55½				
	22 33 56		69 47½ L L	— 21	+ 2 20	Errors of the Quadrants			
	37 39		68 59½	63 43½ U L	93 01				
	40 19		68 25½	62 48½	93 0				
	43 16		67 48	62 12½	92 59				
	46 1		67 12	61 32	92 57½	30 04	82	209 45 18	☉ and ☾
			— 21 ½	60 53½	92 57½				
				+ 1 0	+ 2 45	Errors of the Quadrants			

Observations made on Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance of the ☉ or ☽.	Altitude, or Zenith Distance of the ☽.	Distance of ☽'s L. from ☉ or ☽.	Barom.	Therm.	Longitude East.	Remarks.
3 May	19 38 21 42 51 45 37 47 29 49 30 51 38 53 24 55 20 57 10 58 53		49 47 1/2	28 44 1/2 L. L. 27 41 27 58 26 38 1/2 26 9 1/2 25 40 25 15 1/2 24 49 1/2 24 24 1/2 24 0	75 21 1/2 22 1/2 23 1/2 24 1/2 25 1/2 25 1/2 26 1/2 26 1/2 27 1/2 28 1/2			210 23 54	☽ and Antares, West of her.
	23 45 07 46 52 48 18 49 37 50 52 52 08		55 08 1/2 U. L. 54 47 1/2 54 32 1/2 54 15 1/2 54 01 1/2 53 46 1/2	59 23 U. L. 59 03 58 44 58 23 58 05 57 47	79 46 1/2 46 1/2 45 1/2 45 1/2 44 1/2 44 1/2			209 38 15	☉ and ☽.
			— 21 1/2	+ 3 0"	+ 2 48 1/2				Errors of the Quadrant.
4 —	20 20 55 23 0 24 24 25 35 26 53 28 17 29 43 30 55 32 15 33 43		58 32 1/2	32 11 1/2 L. L. 31 44 31 26 31 8 30 51 1/2 30 33 30 14 29 57 1/2 29 39 29 19	88 57 1/2 88 58 88 58 1/2 88 59 1/2 89 0 89 0 1/2 89 0 1/2 89 0 1/2 89 0 1/2 89 0 1/2			210 21 45	☽ and Antares, West of her.
	23 56 12 1/2 23 58 41 0 0 40 0 1 37 0 4 42		53 38 1/2 U. L. 53 10 1/2 52 48 52 26 1/2 52 01 1/2	67 37 U. L. 66 55 1/2 66 35 1/2 66 01 1/2 65 37	67 11 1/2 67 10 1/2 67 9 1/2 67 9 1/2 67 8 1/2			210 18 0	☉ and ☽.
			— 21 1/2	+ 3 0"	+ 2 33 1/2				Errors of the Quadrant.
4 —	5 19 25 14 28 3 30 5 32 3 33 50 35 30 37 15 39 18 40 52 42 34		25 47 1/2	56 31 1/2	55 33 1/2 35 1/2 35 1/2 36 37 37 1/2 38 1/2 38 1/2 39 1/2 39 1/2			210 55	☽ and Aquila, West of her.
	0 12 50 15 36 17 25 19 23 21 30 23 27		51 8 1/2 U. L. 50 39 1/2 50 19 1/2 49 56 1/2 49 34 49 14	71 38 U. L. 71 6 70 47 70 27 70 9 1/2 69 45	54 52 51 1/2 50 1/2 50 50 49 1/2			209 42 20	☉ and ☽.
			— 21 1/2	+ 4 34"	+ 2 47"				Errors of the Quadrant.

Observations on Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time.	Zenith Distance of the ☉ or *	Altitude, or Zenith Distance of the ☾	Distance of the ☾ & L from ☉ or *	Barom	Therm	Longitude East	Remarks
	H	H		°	° or "				
♀ May 6.	19 47 27			65 21 $\frac{1}{2}$ L. L.	66 58				
	49 25			64 55	66 58 $\frac{1}{2}$				
	50 43			64 36 $\frac{1}{2}$	66 59 $\frac{1}{2}$				
	51 57		26 01 $\frac{1}{2}$	64 20	67 0 $\frac{1}{2}$				
	53 5			64 04 $\frac{1}{2}$	67 0 $\frac{1}{2}$	30.03	72 $\frac{1}{2}$	210 43	☾ and * Aquilæ, West of her
	54 9			63 49 $\frac{1}{2}$	67 1				
	55 19			63 33 $\frac{1}{2}$	67 1 $\frac{1}{2}$				
	20 15 31			58 58 $\frac{1}{2}$	67 8				
	16 45			58 40 $\frac{1}{2}$	67 8 $\frac{1}{2}$				
	18 14			58 20 $\frac{1}{2}$	9				
	19 5		27 42 $\frac{1}{2}$	58 10	9 $\frac{1}{2}$	30.03	72 $\frac{1}{2}$	210 48 27	☾ and * Aquilæ, West of her
	20 1			57 56	10				
	21 0			57 42	10 $\frac{1}{2}$				
				— 21 $\frac{1}{2}$	+ 2 19	Errors of the Quadrant			
	0 9 54		52 20 U L	72 0 L L	42 55 $\frac{1}{2}$				
	12 9		51 53 $\frac{1}{2}$	72 02	54 $\frac{1}{2}$				
	13 30		51 40 $\frac{1}{2}$	72 0	54 $\frac{1}{2}$				
	15 14		51 21	71 58	53 $\frac{1}{2}$				
	16 35		51 05 $\frac{1}{2}$	71 55	54				
	17 54		50 58	71 49 $\frac{1}{2}$	53 $\frac{1}{2}$	30.03	86 $\frac{1}{2}$	209 59	☉ and ☾
	19 3		50 38	71 46	53				
	20 23		50 24 $\frac{1}{2}$	71 42	52 $\frac{1}{2}$				
	21 54		50 7	71 38	51 $\frac{1}{2}$				
	23 5		49 55	71 36	51 $\frac{1}{2}$				
			— 21 $\frac{1}{2}$	+ 3 0	+ 2 17	Errors of the Quadrant.			
♂ — 7	20 39 30			65 52 $\frac{1}{2}$ L. L.	78 37				
	40 35			65 38	38				
	41 36			65 24 $\frac{1}{2}$	38				
	42 40		30 31 $\frac{1}{2}$	65 9 $\frac{1}{2}$	38 $\frac{1}{2}$	30 03	71	211 0	☾ and * Aquilæ, West of her
	43 36			64 57	38 $\frac{1}{2}$				
	44 40			64 43	38 $\frac{1}{2}$				
				— 21 $\frac{1}{2}$	+ 2 57	Errors of the Quadrant.			

In the preceding Observations, where the objects are the Moon and a Star, the Star's true zenith distance is put down as it was computed; and the Moon's zenith distance was observed with the Astronomical Quadrant, except in the Observations of the Moon's distance from * Aquilæ, on May 5th, where both zenith distances are computed. Where the objects are the Moon and Sun, the Sun's zenith distance was observed with the Astronomical Quadrant, and the Moon's altitude with a Hadley's Sextant. In every instance, the true time was got from that shown by the Clock.

Observations on Point Venus, in Otaheite, Continued

Observations for the Variation of the Compass

1774.	Zenith Distance of the ☉ & L	Azimuth of the ☉ & center	Vari- ation East	1774.	Zenith Distance of the ☉ & L	Azimuth of the ☉ & center	Vari- ation East.
♂ April 26	73 24 40 U L	N 64 37 ¹ E		♂ May 2	81 27 10 L L	N 64 40 E	
	72 36 45	63 47 ¹	5 15 ¹		81 11 25	64 30	6 10 ¹
	71 55 35	63 10			80 31 5	64 10	
♂ — 28	74 55 20	N 64 12 ¹ E		♀ — 4	85 2 55 U L	N 77 40 W	
	73 56 55	63 22 ¹	5 26		85 34 30	77 47 ¹	5 57 ¹
	73 17 40	63 17 ¹			86 5 17	78 5	
♀ — 29	75 9 8 L L	N 74 40 W		♀ — 6	76 11 30 U L	N 61 50 E	
	75 47 7	74 52 ¹	5 29 ¹		75 45 55	61 40	5 23 ¹
	76 24 8	75 12 ¹			75 19 30	61 15	
	79 40 40	N 64 55 E		♂ — 7	83 26 30 L L	N 75 45 W	
	78 44 50	64 30	6 0 ¹		84 2 38	76 0	5 48
	78 25 0	64 15			84 29 40	76 17 ¹	
	75 55 30 U L	N 64 0 E			82 43 0 L L	N 62 25 E	
	39 25	63 25	5 48 ¹		81 56 0	63 0	6 25 ¹
	21 05	63 15			80 55 55	62 50	
♂ — 30.	78 26 50 L L	N 75 40 W			Alt. ☉ & L L.		
	79 20 12	76 0	5 26 ¹				
	79 51 58	76 25		♂ — 9	3 6 15	N 76 30 W	
	80 48 30 U L	N 65 15 E.			2 33 45	76 30	5 34 ¹
	80 13 30	65 10	5 49 ¹		2 8 30	76 40	
	79 43 30	65 02 ¹			7 33 30	N 74 50 W	
☉ May 1	76 14 55 U L	N 75 20 W			7 4 0	75 10	6 10 ¹
	76 40 5	75 15	5 57 ¹		6 35 30	75 22 ¹	
	77 8 30	75 25					
	80 29 35 L I	N 64 37 E					
	79 53 0	64 25	5 49 ¹				
	79 15 20	64 20					

1774	Time of apparent Noon by Clock	Syderial Time of apparent Noon	Clock before Syderial Time	Clock loss on Syderial Time
	H	H	"	"
♂ April 23	2 19 43 8	2 2 15 76	17 28, 13	21 43
♂ — 26	2 26 55 03	2 13 31 18	13 23 85	21 33
♂ — 27	2 29 19 91	2 17 17 39	12 2 52	25 08
♀ — 29	2 34 03 57	2 24 51 21	9 12 36	22 37
♂ — 30.	2 36 28 90	2 28 38 91	7 49 90	22 52
☉ May 1	2 37 54 68	2 32 27 21	5 27 47	23 08
♂ — 3	2 42 46 73	2 40 05 42	2 41 31	22 50
♂ — 4	2 45 14 18	2 43 55 37	1 18 81	22, 91
			Clock slow	
♀ — 6	2 50 10, 05	2 51 37 07	1 27 02	22 61
♂ — 7	2 52 39 15	2 55 28 71	2 49 63	23 01
☉ — 8	2 55 08 38	2 59 21 0	4 12 69	22 03
♂ — 9	2 57 39 25	3 3 9, 1	5 34 72	
Mean (rejecting the 30th of April) is				22 64

As I had reason when I went on shore at this place, to think I should not stay above two or three days, the Clock was first set up in the ship's tent; but on the 28th of April, finding that I was likely to stay longer, and that the Clock was liable to be disturbed, I removed the ship's tent, and erected the Observatory over the Clock as it stood

* The Clock seems here to have stopped exactly one minute I know not how to account for it, as I never left either the case or face of the Clock unlocked.

By taking the first and last day's Observations, the Clock's loss is 1 22¹, 68

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides

the reef is not only of much greater extent, and of course the quantity of water thrown over greater, but also as there is only one opening, instead of two, for the discharge of the water that is thrown over. I may add likewise that the surf is, from whatever cause it may happen, generally much greater at Ulitea than at Otaheite. It is moreover evident, that if this be the cause, the Tides will be more sensible in or near the openings than farther within the reef. And so it appears to be from the Observations for Captain Cook and Mr Green tried them at the point A in the Map, and had only 10 or 12 inches at the Spring tides. Mr Bayley and myself tried them at the point B, and had 14 or 15 inches, a day or two before the change. And lastly, I founded across from the Observatory to the rock marked C in the Map, at high water and had between seven and eight feet water, and yet many of our people walked across it at low water to gather shells on the rock.

These were all the Experiments I was able to make for elucidating this affair, although I landed on Point Venus the second time, with a determined resolution to make some Experiments that might be decisive. But, after examining the coast both ways, as far as my other business would permit me to go, I found no place which was not sheltered by the reef in the same manner that Point Venus is, and of course liable to the same objections, or on which a surf did not break so great as to render it totally impossible to make any observations that would turn to the least account.

On the whole, I give it as my opinion, from the fullest conviction that the matter would allow of, that the absolute height of the Tides is the same as it is in other parts of this widely extended ocean, viz about three feet at the highest Spring tides, and about two feet at the neaps.

Observations on the Tides at Ohamaneno Harbour, in the Island of Ulitea

1774	Apparent Time		Height of the Tides		Remarks
	H	M	F	I	
May 25	23	10	—	—	High Water
— 26	0	0	0	8 $\frac{1}{2}$	High Water
— 27	19	0	—	—	Low Water
— 28	1	0	0	7 $\frac{1}{2}$	High Water
	20	30	—	—	Low Water
— 29	1	55	0	7 $\frac{1}{2}$	High Water
	21	0	—	—	Low Water
— 30	2	30	0	7 $\frac{1}{2}$	High Water
	21	30	—	—	Low Water
— 31	3	30	0	7 $\frac{1}{2}$	High Water

The times of high and low water must not be too much relied on, as the small, and very slow rise of the water rendered it impossible to determine them with any accuracy. But the different heights of the water admitted of the most exact determination, the water having not the least motion at any time, so that one eighth of an inch was very discernible, and I am fully persuaded, from thence, that none of the numbers in the third column can err one-fourth of an inch.

Observations at the Island of Tanna, one of the New Hebrides.

1774.	Equal Altitudes. Times by the Watch K.			Zenith Distances.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
16 August 6.	43 36 46 52	9 46 16½ 49 33½	48 57 52 16½	48 0 0		☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 7.	6 58½ 10 12½	14 4 16 7 34	1 34: 4 55	48 0 0	11 56 48,2	☉'s L. L. } Westerly. ☉'s U. L. }
☿ — 10.	6 54 12 54: 15 48:	9 6 24½ 9 13 9 15 17½ 18 10	8 43 11 32½ 17 39: 20 31½	54 20 0 52 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☿ — 11.	38 40½ 41 35 47 36½ 41 48 44 56	14 — 14 39 12 14 45 17 48 8 9 44 23	33 56 36 51½ 42 59 45 49½ 46 58 50 9	52 40 0 54 20 0 47 20 0	11 57 8,16	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☿ — 12.	12 54	14 7 5½	7 42	47 20 0	11 57 13,42	☉'s L. L. } Westerly. ☉'s U. L. }
☉ — 14.	28 5 36 17: 39 21	9 27 33 9 30 31 9 38 50	30 0	49 40 0 47 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☿ — 15.	15 40 18 41 26 55 29 50	14 13 08 16 14 14 24 29 27 24	10 39½ 13 44½ 22 4 25 2	47 40 0 49 40 0	11 57 23,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
☿ — 16.	8 54 11 40 17 38 20 29	9 11 10 13 58 9 19 58 22 49	13 27 16 15 22 17 25 10	52 20 0 50 40 0		☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☿ — 17.	34 40 37 31 43 29½ 46 16	14 32 19½ 35 11 14 41 11 44 0	30 0 32 53 38 53½ 41 44	50 40 0 52 20 0	11 57 27,58	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
☿ — 18.	12 4 14 51	9 14 21 17 8	16 37 19 26	51 20 0		☉'s U. L. } Easterly. ☉'s L. L. }
☿ — 19.	40 27 43 13½	14 38 10 40 56	38 41½	51 20 0	11 57 31,72	☉'s E. L. } Westerly. ☉'s U. L. }

Observations at the Island of Tanna, one of the New Hebrides, Continued

Observations for the Variation of the Compass

1774	Time by the Watch K	Azimuth of the S's Cen ter			Vari- ation East
	H	M	S	D	
August 8	6	41	17	N 65 10 E	6 7
		43	1	65 0	
		44	51	64 30	
		46	42	64 35	
August 9	16	43	40	N 75 55 W	6 49
		44	52	75 25	
		46	10	74 55	
		47	11	75 52	
August 14	7	48	18	N 58 0 E	8 4
		48	37	57 40	
		48	56	58 0	
August 15	6	42	18	N 65 45 E	7 35
		44	45	65 40	
		45	26	64 35	
August 18	6	44	5	N 66 0 E	7 34
		45	13	66 02	
		46	40	66 25	

Observations for the Dip of the Needle

1774	Face of the Instrument.	
	East	West
August 7	44 25	45 05
	43 05	46 30
	Changed the Poles	
	42 45	45 50
	44 0	46 30
	Changed the Poles	
	44 45	46 30
	44 35	44 20
	44 30	45 25
	44 40	45 50
August 17	45 0	43 10
	Changed the Poles	
	46 05	44 30
	44 15	43 15
	44 55	43 05
	Changed the Poles.	
	45 25	45 35
	46 10	46 40
	Changed the Poles	
	45 45	45 10
Mean	46 45	45 0
	45 15	45 50
	45 02	Dip of the Needle's S end

Observations at the Island of Tanna, one of the New Hebrides, Continued.

Lunar Observations for the Longitude.

1774	Time by the Watch K.			Apparent Time.	Zenith Distance of the Sun's U. L.	Distance of the Sun's L. from ☉ or ♀.	Error of the Quadrant.	Longitude East.	Remarks.
	H	M	S	H	M	S			
Aug. 15.	14	40	22½		46 22½	92 6			☉ and Sun's Limbs. Barometer 29,97. Thermometer 81½. Dollond's Quadrant.
		41	58		46 0½	6½			
		43	20½		45 42½	6½			
		44	44		45 21	6½	+1 16	170 12 0	
		47	54½		44 39	8½			
		49	05		44 22½	9			
		50	31		44 2½	10			☉ and ☉. Barometer 29,97. Thermometer 81½. Ramsden's Quad.
	14	53	9		43 29½	92 11			
		54	41		43 7½	11½			
		55	46		42 52	11½	+1 58½	169 42 37	
		56	45		42 38½	12			
		58	8		42 19½	12½			
		59	32		41 59½	13½			☉ and Spica. Barometer 30,08. Thermometer 81. Cloudy. ☉ and α Aquilæ. Barometer 30,08. Thermometer 81. Very cloudy.
	18	32	39			36 6½			
		35	2			8½			
		35	51			8	+1 20	169 35 38	
		38	39			9½			
		39	4½			9			
	18	47	52			63 28			☉ and ☉. Barometer 30,07. Thermometer 79½. Ramsden's Quad.
		48	45			27½			
		50	57			26½	+1 20	169 40 37	
		52	37			26½			
	17.	15	21 26		62 6½	119 10½			
		24	3½		61 33½	12½			
		25	9		61 18½	12½			☉ and ☉. Barometer 30,07. Thermometer 79½. Ramsden's Quad.
		26	20		61 2½	13½			
		27	18		60 45½	14	+1 47½	169 53 15	
		28	52		60 28	14½			
		29	52½		60 13½	15			
		30	56		60 0½	15½			
		31	45		59 48½	16			Mean of all.
		32	52		59 33½	16½			
								169 48 49½	

Observations made at the Island of Tanna, one of the New Hebrides

Observations on the Tides

1774	Apparent Time	Height of the Tide	Remarks	1774	Apparent Time	Height of the Tide	Remarks
	H	F 1			H	F 1	
6 August 6	4 48		Time of high water estimated	11 August 18	5 58		Water returned to the first mark
23 14			The water at a mark	21 30			Low water by estimation
23 42			Low water by equal altitudes.	2 10			The water at a mark
7 1 10			The water returned to the mark	2 30			The water at a second mark
5 47	3 0		High water by estimation	3 50	3 5		High water by equal altitudes
20 45			Low water by estimation	5 15			Water returned to the latter mark
3 48			The water at a mark	5 25			Water returned to the first mark
18 0 1			The water at another mark				
2 55	3 01		High water by equal altitudes				
5 37			Water returned to the latter mark				

The high and low waters were marked on a post and the distance between these marks measured with a two feet rule

Computations of the going of Mr Kendall's Watch

1774	Time of apparent Noon by the Watch	Mean Time of apparent Noon.	Watch too slow for mean Time	Watch gains between the Observations	Watch gains each Day	If the gain between the first and last Observation be taken and divided by the number of days elapsed, the daily gain of the Watch on mean time will be 13,795 but if a mean of all the comparisons which can be formed out of the six days Observations be taken, the daily gain on mean time will be 13,938
	cl	H	H			
6 August 7	11 56 43 2	24 5 23 23	12 8 35 03	0 51 55	12 89	
11 11 57 08 16	4 51 64	7 43 48	0 14 58	14 58		
12 11 57 13 43	4 42 32	7 28 90	0 41 32	13 79		
15 11 57 23 19	4 10 82	6 47 53	0 27 97	13 98		
17 11 57 27 58	3 47 14	6 19 56	0 30 07	15 03		
19 11 57 31 74	3 21 21	5 49 49				
			Mean	14 054		

Observations for the Latitude of the Place

1774	Double Altitude of the \odot s L L		Latitude South	
6 Aug 7	107 24 0	Dollond's Quadrant	19 32 18	
8 9	108 31 30	Ditto	19 32 33	
10 10	109 7 10	Ramfden's ditto	19 32 7	
11 11	109 41 52	Ditto	19 32 25	
12 12	110 17 8	Dollond's ditto.	19 32 41	
15 15	113 11 0	Ditto	19 32 29	
16 16	113 48 45	Ramfden's ditto	19 32 25½	
		Mean Latitude	19 32 25½ South	

Observations made on the Island Pudyoua, on the Coast of New Caledonia.

1774.	Equal Altitudes. Times by the Watch K.			Zenith Dis- tance.	Altitude of the ☉'s L. L. on the Meridian.	Time of appa- rent Noon by the Watch.	Remarks, &c.
	Lower Wire.	Middle Wire.	Upper Wire.				
Sept. 5.	23 11½	9 25 19½	27 26	49 40	62 59½	12 16 41.9	☉'s U. L. } Easterly. ☉'s L. L. } Height of the eye 10 feet. ☉'s L. L. } Westerly. ☉'s U. L. }
6.	25 48	27 54	30 01				
	10 26	15 5 43	6 12½	49 40			

Observations of the Solar Eclipse.

At 13 h. 11' 47" by the Watch, I had a short sight of the Sun between the clouds, and saw that the Eclipse had begun: It remained cloudy until a little before two o'clock, when it cleared up, and I took the following measurements with my Hadley's Sextant, which I think may be advantageously made use of on these occasions.

1774.	Time by the Watch K.		Apparent Time.	Distance of the Cusps. After. Before.		Distance &c. re- duced.	1774.	Time by the Watch K.		Apparent Time.	Distance of the Cusps. After. Before.		Distance &c. re- duced.	
	H	M		o.	o.			H	M		o.	o.		
8 Sept. 6.	14	10 28	1 53 45½	27½		26 54	8 Sept. 6.	14	49 54	2 33 11½		24½	24 30	
		13 31	1 56 48½	27½		27 9			53 7	2 36 24½		24	24 21	
		15 57	1 59 14½		26½	26 36			54 30	2 37 47½		24½	24 36	
		17 19	2 0 36½		26½	27 6		15	11 53	2 55 10½	23½		23 24	
		22 50	2 6 7½		26½	26 51			12 50	2 56 7½		22½	22 36	
		23 45	2 7 2½		26	26 21			13 29	2 56 46½		22½	22 51	
		24 33	2 7 50½		26	26 21			14 9	2 57 26½	21		21 40	
		25 41	2 8 58½	26½		25 54			14 39	2 57 56½	21½		21 24	
		26 29	2 9 46½	26½		25 54			15 31	2 58 48½		21½	21 51	
		27 15	2 10 32½	26½		26 9					31½	31½	32	0½
		28 22	2 11 39½	26		25 39					32½	31½		
	The Sun's diameter.			32	31½	31 57½					32½	31½		
				32½	31½									
				32½	31½									
	14	34 21	2 17 38½	25½		25 24		15	23 14	3 5 34½	21		20 39	
			35 7	2 18 24½	25½	25 9				23 36	3 6 53½	20½		26 9
				2 18 24½	25½	25 9				25 59	3 9 16½	20½		20 51
		35 39	2 18 56½	25½	25 9		27 25		3 10 42½	19½		20 6		

Observations made on the Island of Pudyoua, on the Coast of New Caledonia, Continued

Observations of the Solar Eclipse

1774-	Time by the Watch K	Apparent Time	Local Part.		Parts, &c. reduced.	1774	Time by the Watch K.	Apparent Time.	☉'s Dia. meter		Reduc ed
			After	Before					After	Before	
	H	H	o	o					o	o	
8 Sept. 6	15 29 01	3 12 18½		26½	26 51				32½	31½	32 0
	30 13	3 13 30½		27½	27 36				32	31½	31 52½
	30 50	3 14 7½	28½		27 54				32½	31½	31 52½
	31 42	3 14 59½	28½		27 54			After the Eclipse	32½	31½	31 52½
	32 34	3 15 51½	29		28 40				32½	31½	32 0
	33 9	3 16 26½	29½		28 54				32½	31½	32 0
	33 52	3 17 09½		28½	28 36	W W	15 45 32	3 28 49½	32½	31½	31 52½
	34 27	3 17 44½		28½	28 51	Mr Clarke	45 35	52½	} End of the Eclipse.		
	35 3	3 18 20½		29	29 21	Capt Cook	45 36	53½			

As the cusps approach each other the fastest towards the end of the Eclipse, it would certainly have been best to continue measuring their distance to the end, if it could have been done with exactness; but I found that when they began to grow very obtuse, it was not easy to determine their coincidence, at least with so small a magnifying power as is generally used with Hadley's quadrant. If a micrometer on the same principles with Hadley's quadrant was applied to a proper telescope, which I think might be done with some advantage, this defect might probably vanish; as things are, I think it would be best always to measure the parts uneclipsed

Of the Tides

The distance which we lay from the shore, and the difficulty of getting thither, would not permit me to make a regular series of Observations on the Tides; but I found by equal altitudes of the water, that it was low water at the island where I observed the eclipse at 18 past noon of the 6th; and, as near as I could estimate, it was high water on the shore opposite the ship, at half past six o'clock the next morning. At 58 past noon on the 7th it was low water; but I could determine nothing with respect to the quantity it had ebbed, as the natives would not suffer any mark to stand on the shore, and there was no fixed object by which it could be done. The next morning I got the time of high water very accurately, by means of equal altitudes, at 19 h 29, and found that it had flowed three feet and near an inch from yesterday's low water mark. At five or ten minutes past two o'clock on the 8th, it was low water, and I found that it had ebbed out from this morning's high water mark three feet and an inch nearly. These were all the remarks of this sort which I was able to make here.

Observations made on Board the Ship, at Anchor.

Observations of Meridian Altitudes for the Latitude.

1774.	Meridian Altitude of the \odot 's L. L.	Latitude.	Quadrant.	
Sept. 7.	63 23 $\frac{1}{2}$	20 16 40	Ramsden.	<p>* * The great difference between the latitudes deduced from the three first Observations, as well as that made on the little island, on the 6th, and those deduced from the five last Observations, did not escape my notice at the time, nor did they pass without the strictest examination, as well as care, in the four last, so that I am certain no mistake has happened in them; and that no mistake has been committed in the former may reasonably be concluded, as they agreed exceeding near with those taken by Mr. Clerke and others on the little island.</p> <p>N. B. The small island, where I observed the Eclipse, bore S. 88 E. by compass, about a mile distant; that is, about S. 79° E. true: Of course the difference of latitude is about 11", whence the latitude of the island will be 20° 17' 59" S.</p>
24 — 8.	63 45 $\frac{1}{2}$	20 16 52	Dollond.	
2 — 9.	64 8 $\frac{1}{2}$	20 16 48	Ramsden.	
5 — 10.	64 29 $\frac{1}{2}$	20 18 20	Ramsden.	
10 — 11.	64 52 $\frac{1}{2}$	20 18 0	Ramsden.	
	64 52 $\frac{1}{2}$	20 18 30	Dollond.	
12 — 12.	65 14 $\frac{1}{2}$	20 18 45	Dollond.	
	65 15 $\frac{1}{2}$	20 18 30	Ramsden.	
Latitude		20 17 48	South.	

Observations for the Longitude by the Watch K.

1774.	Time by the Watch K.			Apparent Time.			Altitude of the \odot 's L. L.			Barometer.	Thermometers. A. B.		Longitude by the Watch.			No. of Observations.	Remarks.
	H	M	S	H	M	S	H	M	S				H	M	S		
Sept. 5.	15	17	44 $\frac{1}{2}$	3	0	50,7	37	45	54	30,09	77	75 $\frac{1}{2}$	163	55	22 $\frac{1}{2}$	10	Cloudy.
6.	9	49	24 $\frac{1}{2}$	21	32	45 $\frac{1}{2}$	44	59	44	30,08	73 $\frac{1}{2}$	72 $\frac{1}{2}$	163	56	37 $\frac{1}{2}$	6	
7.	7	13	4	18	56	36	11	0	10	30,04	73 $\frac{1}{2}$	72 $\frac{1}{2}$	163	58	0	6	
24 — 8.	7	9	4 $\frac{1}{2}$	18	51	33 $\frac{1}{2}$	9	58	52	30,08	73 $\frac{1}{2}$	74 $\frac{1}{2}$	163	55	45	6	Dist.
2 — 9.	7	54	14 $\frac{1}{2}$	19	37	54	20	43	41	30,09	73 $\frac{1}{2}$	71	163	56	45	6	
5 — 10.	16	5	39	3	49	22,7	28	9	10	30,06	76	75	163	57	0	8	
	16	12	2 $\frac{1}{2}$	3	55	50	26	42	40	30,06	76	75	163	58	0	6	Dist.
	8	24	32	20	8	16	27	44	23	30,21	73 $\frac{1}{2}$	72	163	56	7 $\frac{1}{2}$	10	
10 — 11.	15	21	21 $\frac{1}{2}$	3	5	10	38	1	9	30,08	74 $\frac{1}{2}$	76 $\frac{1}{2}$	163	56	37 $\frac{1}{2}$	6	Dist.
	7	38	2 $\frac{1}{2}$	19	21	52	17	22	7 $\frac{1}{2}$	30,14	74	72 $\frac{1}{2}$	163	55	52 $\frac{1}{2}$	6	
	15	5	14 $\frac{1}{2}$	2	49	12	41	37	13 $\frac{1}{2}$	30,08	76 $\frac{1}{2}$	79	163	57	15	8	
Mean of all													163	56	40 $\frac{1}{2}$	East.	

Observations made on Board the Ship, at Anchor

Observations for the Variation of the Compass

1774	Altitude of the O's L L	Azimuth of the O's Cen- ter	Variation East	No of Observat	Remarks
8 Sept 7	7 2 24	N 73 3 E	7 59 $\frac{1}{2}$	5	Gregory's Compass, observed by Mr Clarke
	8 5 20	N 72 22 E	8 15	5	Gregory's Compass
14 — 8	6 0 10	N 73 46 E	7 42 $\frac{1}{2}$	5	Gregory's Compass
	8 24 2	N 72 22 E	8 30 $\frac{1}{2}$	5	Knight's Compass
9 — 9	10 31 24	N 71 3 E	9 25	10	Knight's Compass
10 — 11	10 12 45	N 72 3 E	9 22 $\frac{1}{2}$	10	Knight's Compass
		Mean	8 32 $\frac{1}{2}$		East

This variation, as usual, is considerably less than any observed at sea for some time, both before and after we were at this place

Lunar Observations for the Longitude

1774	Time by the Watch K	Apparent Time H	Altitude of the ☉ or *	Moon's Al- titude	Distance ☉ & Limb from ☉ or *	Barom	Therm	Longi- tude East	Remarks
8 Sept 9	19 3 36 $\frac{1}{2}$	6 47 11 $\frac{1}{2}$	65 53 $\frac{1}{2}$ tr	27 4 tr	42 17 30	30.08	71 $\frac{1}{2}$	165 17 $\frac{1}{2}$	☉ and Antares, a mean of 7 Observations
h — 10	16 5 39	3 49 22 7	28 9 $\frac{1}{2}$ L L	76 29 $\frac{1}{2}$ L. L.	50 4 22 $\frac{1}{2}$	30.06	75	164 15 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	16 12 2 $\frac{1}{2}$	3 55 50	26 42 $\frac{1}{2}$ L L	75 31 L L.	50 6 22	30.06	75	164 13 $\frac{1}{2}$	☉ and ☉ a mean of 6 Observations
○ — 11	19 4 54	6 48 43	19 6 tr	52 32 tr	32 48 28 $\frac{1}{2}$	30.18	73	164 31 $\frac{1}{2}$	☉ and Jovic a mean of 8 Observations
	19 25 38 $\frac{1}{2}$	7 9 57 $\frac{1}{2}$	56 27 $\frac{1}{2}$	47 44 $\frac{1}{2}$ tr	66 23 17 $\frac{1}{2}$	30.18	73	164 56 $\frac{1}{2}$	☉ and a Aquilæ a mean of 6 Observations
☉ — 12	15 5 14	2 49 12	41 37 $\frac{1}{2}$ L L		75 56 50	30.08	79	164 10 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	15 13 44	2 57 42	39 47 $\frac{1}{2}$ L L		75 59 36 $\frac{1}{2}$	30.08	79	164 22 $\frac{1}{2}$	☉ and ☉ a mean of 8 Observations
	19 9 34 $\frac{1}{2}$	5 53 33	54 42 $\frac{1}{2}$	54 34 tr	54 16 10 $\frac{1}{2}$	30.10	73 $\frac{1}{2}$	165 40 $\frac{1}{2}$	☉ and a Aquilæ a mean of 8 Obs Cloudy

As it frequently happened that the altitude of one or both of the objects could not be observed for the land I was obliged to compute them from the apparent time deduced from the Watch, and such are here marked tr The numbers put down are the true altitude of the center

The mean of the above Observations give $164^{\circ} 42 6 \frac{1}{2}$ for the Longitude of the ship. Twenty Observations taken before we arrived and reduced higher by the Watch give $164^{\circ} 45 54 \frac{1}{2}$ and twenty taken after leaving the place gave $164^{\circ} 32 32''$ the mean of these three is $164^{\circ} 40 11$ E the Longitude of the ship at anchor The bearing and distance of the little island where I observed the eclipse gives 1 3 for the difference of Longitude between the ship and island and of course the Longitude of the latter will be $164^{\circ} 41 14$ E but the Watch gave only $27 \frac{1}{2}$ difference of Longitude; and therefore if this be taken the Longitude will be no more than $164^{\circ} 40 38 \frac{1}{2}$ E I should prefer the former

Observations made at Queen Charlotte's Sound, in New Zealand.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Azimuth of ☉'s center from the North at the times of equal Altitudes.			Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.		Lower Wire.	Middle Wire.	Upper Wire.		
		H						H	
☉ — 21.	19 21 22 14½ 33 06 36 41	9 21 40½ 24 36: 11 35 59½ 39 44:	24 1 26 56 38 54½ 42 31½	64 40 0 41 20 0				13 47 14,28	☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☉ — 22.	1 42 12 39½ 15 36 6 48½ 9 49½ 52 1 55 11	15 55 7½ 58 50 18 10 18½ 13 15½ 10 9 15 12 14½ 57 46	52 11½ 55 57 7 58 10 55 11 39 14 38½ 0 20½	41 20 0 64 40 0 56 20 0 48 20 0				13 50 45,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
☉ — 23.	46 41 49 51 32 04 35 03½ 38 18½ 41 16½	16 44 6½ 47 19 17 29 39 32 40½ 9 40 4½ 43 38½	44 46 27 16 30 17 43 3 46 59	48 20 0 56 20 0 62 0 0				13 54 19,11	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly.
☉ — 24.	7 47 10 45 39 28 42 25 52 02½ 54 58	18 8 23 9 41 49½ 44 45: 9 54 23½ 57 19½	14 9 47 4½ 56 44 59 41	62 0 0 62 40 0 60 20 0				14 1 28,25	☉'s L. L. } Very cloudy. ☉'s U. L. } Westerly. ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 26.	8 23½ 11 21½ 20 58 23 53½ 31 52½ 34 47½ 47 16	18 6 1½ 8 59 18 18 37½ 21 34 9 34 13 37 7½ 9 46 42½ 49 37	6 39 16 19: 19 13½ 36 32 39 27 49 1 51 57½	60 20 0 62 40 0 65 0 0 62 40 0				14 8 42,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 27.	31 52½ 34 47½ 47 16	9 34 13 37 7½ 9 46 42½ 49 37	36 32 39 27 49 1 51 57½	65 0 0 62 40 0				14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 28.	30 34½ 43 2½ 45 58½ 55 27½ 58 22 7 58 10 54	18 28 13: 19 31 8: 18 40 40½ 43 30½ 9 57 47½ 10 0 42: 10 10 19 13 15	18 24: 41 17 0 7 3 2½ 12 39½ 15 35	62 40 0 65 0 0 62 0 0 59 40 0				14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. }
☉ — 30.	55 27½ 58 22 7 58 10 54	9 57 47½ 10 0 42: 10 10 19 13 15	0 7 3 2½ 12 39½ 15 35	62 0 0 59 40 0				14 19 36,29	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
☉ — 31.	28 42½ 31 38½ 41 16½	18 26 22 29 18 41 50	24 2½ 26 59 36 34½ 39 29:	59 40 0 62 0 0					☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }

Observations made at Queen Charlotte's Sound, Continued

1774		Equal Altitudes, Times by the Clock B			Zenith Distance	Azimuth of ☉ : cents from the North at the times of equal Altitudes			Time of ap- parent Noon by the Clock	Phaenomena and Remarks	
		Lower Wire	Middle Wire	Upper Wire		Lower Wire	Middle Wire	Upper Wire			
		H									
Nov	2	6 45 9 40½ 19 13 22 10	10 9 6 12 0 10 21 34 24 30½	11 24 14 20 23 53½ 26 51	61 20 0 59 0 0	71 35 71 20 69 40 69 20 Varia	71 20 71 0 69 25 69 20 14 15	70 50 69 20 69 05 East	14 30 37 10	☉ : U L } ☉ : L I } ☉ : U L } ☉ : L L }	Easterly
—	3	39 25½ 42 23 51 56 54 53 40 57½ 49 55½	18 37 5 40 24 18 49 30½ 52 32 10 49 20 52 18	34 45 37 43 47 16½ 50 13½ 51 40½ 54 39½	59 0 0 61 20 0 54 20 0	97 45 98 10 100 25 100 35 65 0 64 45 Varia	97 25 97 50 99 30 100 25 64 45 64 16 14 48½	97 0 97 30 99 35 99 35 64 15 63 35 East	14 30 37 10	☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : U L } ☉ : L L }	Westerly
—	4	19 0 21 58½ 28 7½ 31 4½	18 16 40 19 37 9 56 39 59 33½ 10 30 29 33 25½	14 18 17 17 58 57½ 1 51½ 32 48 35 45	54 20 0 64 40 0 58 20 0	94 30 94 45 69 35 69 15 Varia	93 30 94 35 75 0 74 30 69 15 69 0 14 24½	93 15 93 35 74 35 74 15 69 0 68 30 East	14 34 18 45	☉ : L L } ☉ : U L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }	Westerly
—	5	45 17½ 48 13½	18 42 56½ 45 53½ 19 16 51 19 46	40 38 43 34 14 32½ 17 27	58 20 0 64 40 0	98 0 98 25 103 35 103 50	97 35 97 10 97 40 103 5 103 40	14 38 0 49	☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L }	Westerly	

* The Observatory stood exactly in the place where it did last year, and where I observed the equal altitudes in May and June, 1773. The Clock also was fixed up in the usual manner, by means of the iron block and frame but I had the mortification to find it so much injured by the dampness of the place it had lain in, and the parts, particularly the pendulum, so covered with rust, that it would not go without fresh oil, and an additional weight for the first day or two after it was set up.

Observations made at Queen Charlotte's Sound, Continued.

Computations of the Clock's Rate of going.

1774.		Time of appa- rent Noon by the Clock.	Syderial Time of apparent Noon.	Clock too fast for Syderial Time.	Clock loses between the Obser- vations.	Clock loses each Day on Syderial Time.
		H " "	H " "	" " "	" " "	" " "
b	Oct. 22.	13 47 14,28	13 46 33,90	0 40,38	16,89	16,89
o	— 23.	13 50 45,29	13 50 21,80	0 23,49		
D	— 24.	13 54 19,11	13 54 10,70	0 08,41		
				Clock flow.		
#	— 26.	14 1 28,25	14 1 50,38	0 22,13	30,54	15,27
2	— 28.	14 8 42,29	14 9 33,10	0 50,81	28,68	14,34
D	— 31.	14 19 36,89	14 21 13,10	1 36,21	45,40	15,13
o	Nov. 3.	14 30 37,10	14 33 0,37	2 23,27	47,06	15,69
2	— 4.	14 34 18,45	14 36 57,78	2 39,33	16,06	16,06
b	— 5.	14 38 0,49	14 40 56,01	2 55,52	16,19	16,19
					Mean	15,58

If the gain between the first and last Observation be taken, the Clock's gain on Syderial Time will be 15,42 each day.

The pendulum vibrated 1° 37½ each way from the perpendicular the whole time.

Observations of Meridian Altitudes of the Sun and Stars for the Latitude.

1774.	Zenith Distances.				Exterior Arch reduced.	Barom.	Thermom.		Phenomena and Remarks.
	Interior Arch.	Exterior Arch.					In Tent.	Out	
	° " "	G. S. V.	+ "						
☿ Oct. 26.	28 56 45	30 3 17	10		28 57 19	29,67	70½	71	☉'s L. L.
♀ — 28.	27 43 53	29 2 11	8		27 44 20½	29,67	67	68	☉'s U. L.
♂ — 31.	27 16 52	29 0 13	21		27 17 19	29,60	65	67	☉'s L. L.
	10 17 7	10 3 29	0		10 17 26	29,61	55	50½	Fomalhaut.
	55 4 25	58 3 0	15		55 4 56	29,61	55	50½	α Pegasi.
	68 54 28	73 2 1	5		68 54 54	29,62	53½	50.	α Andromedæ.
	17 17 15	18 1 25	8		17 17 41	29,62	52½	49½	Achernar.
♂ Nov. 1.	26 24 22	28 0 21	20		26 24 33½	29,70	67	66	☉'s U. L.
♀ — 2.	26 37 55	28 1 21	6		26 38 17½	29,38	67½	65½	☉'s L. L.
	6 56 40	7 1 21	21		6 57 23	29,40	51½	45½	α Grui.

ASTRONOMICAL OBSERVATIONS

Observations at Queen Charlotte's Sound, Continued

Observations of meridian Altitudes of the Sun and Stars for the Latitude

1774	Zenith Distances				Exterior Arch reduced	Barom	Thermom		Phenomena and Remarks
	Interior Arch	Exterior Arch					In Tent	Out	
		G	S	V	"				
8 Nov 2	6 56 53	7 1 22	4	6 57 33	29,40	50 $\frac{1}{2}$	44 $\frac{1}{2}$	β Gruis	
	10 17 7	10 3 28	23	10 17 22 $\frac{1}{2}$	29,41	50	43	Fomalhaut	
	55 4 6	58 3 0	0	55 4 41	29,41	50	43	α Pegasi	
	68 54 3	73 2 0	24	68 54 22 $\frac{1}{2}$	29,42	48 $\frac{1}{2}$	43	α Andromedæ	
24 — 3	17 16 30	18 1 23	23	17 16 40	29,42	47	43 $\frac{1}{2}$	Achernar	
	6 56 40	7 1 21	10	6 57 2 $\frac{1}{2}$	29,49	55 $\frac{1}{2}$	53	α Gruis	
	20 15 52	21 2 16	6	20 16 30	29,49	55 $\frac{1}{2}$	53	α Anseris Americani	
	6 56 55	7 1 22	10	6 57 39	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	β Gruis	
	10 16 40	10 3 28	12	10 17 11 $\frac{1}{2}$	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	Fomalhaut	
	55 4 8	58 3 0	4	55 4 45	29,49	51 $\frac{1}{2}$	48 $\frac{1}{2}$	α Pegasi	
	68 54 23	73 2 0	22	68 54 44 $\frac{1}{2}$	29,50	50	47 $\frac{1}{2}$	α Andromedæ	
	17 16 32	18 1 24	0	17 17 6 $\frac{1}{2}$	29,54	51	50	Achernar	
7 — 4	6 56 58	7 1 22	13	6 57 29	29,52	59	56	β Gruis	
	10 17 10	10 3 29	10	10 17 36	29,52	57 $\frac{1}{2}$	53 $\frac{1}{2}$	Fomalhaut.	
	55 4 35	58 3 1	0	55 5 7 $\frac{1}{2}$	29,52	57 $\frac{1}{2}$	53 $\frac{1}{2}$	α Pegasi	
5 — 5	25 9 20	26 3 11	13	25 9 44	29,75	70	73 $\frac{1}{2}$	α U L	

For the Error of the Line of Collimation of the Quadrant

1774	Zenith distance of the upper hole the quadrant direct				Zenith distance of the lower hole the quadrant inverted				These Observations give four comparisons for each arch of the Quadrant viz + 21 ¹ / ₂ — 6 ¹ / ₂ , + 15 ¹ / ₂ and — 0 ¹ / ₂ for the interior, or 90 arch, and + 11 ¹ / ₂ , — 28 ¹ / ₂ , — 6 ¹ / ₂ and — 21 ¹ / ₂ for the exterior, or 96 arch the mean of the former is 7 ¹ / ₂ to be added, and of the latter 13 ¹ / ₂ to be subtracted	
	Interior Arch		Exterior Arch		Interior Arch		Exterior Arch			
			G S V	+			G S V	+		
	89	13 25	95	0 23	0	90	45 55	96	3 8	20
		13 35		23	14		45 25			8
		13 40		23	7		45 25			8
		13 50		23	24		45 45			8
		13 45		23	13		45 30			8
		13 50		23	12		45 35			8
		13 37		23	20		46 35		10	20
		13 50		24	14		46 23		10	0
		14 0		23	24		46 30		10	6
		13 55		24	5		46 05		10	0
		14 05		23	20		46 05		9	20

Observations at Queen Charlotte's Sound, Continued.

Computations for the Latitude of the Place.

1774.	Latitude by the Interior Arch.	Exterior Arch.	Declination.	1774.	Latitude by the Interior Arch.	Exterior Arch.	Declination.
	By Observations of the Sun.				By Observations of α Grus.		
8 Oct. 26	41 5 46	41 5 59	12 24 37 S.	8 Nov. 2.	41 5 32	41 5 10	48 2 26 $\frac{1}{2}$ S.
9 — 28.	41 5 58	41 6 4	13 5 23	24 — 3.	41 5 32	41 5 21	
9 — 31.	41 6 11	41 6 17	14 4 59		41 5 32	41 5 16	Means,
8 Nov. 7.	41 5 49	41 5 19	14 24 25		By Observations of β Grus.		
8 — 2.	41 5 51	41 5 58	14 43 36	8 Nov. 2.	41 6 13	41 5 55	48 3 21 S.
8 — 5.	41 5 44	41 5 47	15 39 44	24 — 3.	41 6 11	41 5 39	
	41 5 50	41 5 54	Means.	9 — 4.	41 6 8	41 5 46	Means,
	By Observations of Fomalhaut.				41 6 11	41 5 46	Means,
9 Oct. 31.	41 6 03	41 6 01	30 48 40 S.		By an Observation of α Antaris American.		
9 Nov. 2.	41 6 03	41 5 57		24 Nov. 9.	41 6 12	41 5 55	61 22 32 S.
24 — 3.	41 5 36	41 5 47			By Observations of Achernar.		
9 — 4.	41 6 06	41 6 11		9 Oct. 31.	41 5 39	41 5 43	58 23 19 S.
	41 5 57	41 5 59	Means.	8 Nov. 2.	41 6 24	41 6 13	
	By Observations of α Andromeda.			24 — 3.	41 6 22	41 6 15	Means.
9 Oct. 31.	41 6 01	41 6 11	27 50 56 N.		41 6 8	41 6 4	Mean of the southern stars.
9 Nov. 2.	41 5 43	41 6 5			41 6 01	41 5 45	Mean of the northern stars.
24 — 3.	41 6 2	41 6 2			41 5 52	41 5 59	Mean of both.
	41 5 57	41 6 6	Means.		41 5 57	41 5 52	Latitude South.
	By Observations of α Pegasi.				41 5 54		
9 Oct. 31.	41 5 51	41 6 1	14 0 03 N.				
9 Nov. 2.	41 5 33	41 5 47					
24 — 3.	41 5 34	41 5 50					
9 — 4.	41 6 0	41 6 11					
	41 5 41	41 5 57	Means.				

Lunar Observations for the Longitude.

1774.	Time by the Clock.	Apparent Time.	True Alt. of \odot 's Center.	Zenith Distance of \odot 's U. L.	Distance of the \odot and \odot 's Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Longitude.	Remarks.
9 Oct. 23.	4 33 49	14 40 55	11's first satellite immersed at a sensible distance from the Planet. Mag. power 150						174 7 30	
8 — 25.	8 41 26	18 44 30	16 24	65 15	109 39	+3 29	29.68	60	174 22 50	Dollond's Quadrant.
	43 21			26	39					
	44 40			33	30					
	46 2			40	38					
	47 14			46	38					
	48 21	18 54 49	18 20	52	38	-1 54	29.68	60	174 33 55	Ramden's Quadrant.
	8 52 44			66 17	109 42					
	53 49			23	41					
	55 2			31	41					
	55 59			36	41					
	57 4			42	40					
	58 34			51	40					

Observations at Queen Charlotte's Sound, Continued

Lunar Observations for the Longitude

1774	Time by the Clock	Apparent Time	True Alt. of ☉ Center	Zenith Distance of ☉ U L	Distance of the ☉ and ☽ Limbs	Error of the Quadrant	Barometer	Thermometer	Longitude	Remarks
	H	H	°	°	°					
4 Oct 27	8 46 10	18 41 40 $\frac{1}{2}$	16 18 $\frac{1}{2}$	57 33 $\frac{1}{2}$	87 51 $\frac{1}{2}$	+3 38	29 7 $\frac{1}{2}$	59	174 6 30 $\frac{1}{2}$	Dollond's Quadrant
	47 20			34 $\frac{1}{2}$	51 $\frac{1}{2}$					
	48 55			35 $\frac{1}{2}$	51 $\frac{1}{2}$					
	50 23			36 $\frac{1}{2}$	50 $\frac{1}{2}$					
	51 24			37 $\frac{1}{2}$	50 $\frac{1}{2}$					
	53 3			39 $\frac{1}{2}$	49 $\frac{1}{2}$					
	8 55 25			57 43 $\frac{1}{2}$	87 54 $\frac{1}{2}$					
	57 3			45	54					
	58 33	18 51 21 $\frac{1}{2}$	18 08	47	53 $\frac{1}{2}$	-1 42 $\frac{1}{2}$	29 7 $\frac{1}{2}$	59	174 33 52	Ramfden's Quadrant
	59 51			49	53 $\frac{1}{2}$					
	9 1 35			51 $\frac{1}{2}$	52 $\frac{1}{2}$					
	9 4			54	52					
	10 24 59	20 9 43 $\frac{1}{2}$	33 28 $\frac{1}{2}$	48 43 $\frac{1}{2}$	53 19	+3 52	29 58	67	174 31 15	Dollond's Quadrant
	26 45			40	18 $\frac{1}{2}$					
	28 18			35	18 $\frac{1}{2}$					
	29 35			33 $\frac{1}{2}$	17 $\frac{1}{2}$					
	30 45	20 18 49	35 8 $\frac{1}{2}$	31	17 $\frac{1}{2}$	-2 26	29 58	67	174 41 15	Ramfden's Quadrant
	32 6			28 $\frac{1}{2}$	17					
	10 34 29			48 24	53 22 $\frac{1}{2}$					
	35 59			21 $\frac{1}{2}$	22					
	37 9	21 29 38 $\frac{1}{2}$	49 15 $\frac{1}{2}$	19 $\frac{1}{2}$	21 $\frac{1}{2}$	+3 32	29 64	70	174 20 55	Dollond's Quadrant
	38 41			17 $\frac{1}{2}$	21					
	39 56			16	20 $\frac{1}{2}$					
	41 0			14 $\frac{1}{2}$	20 $\frac{1}{2}$					
	11 56 45	21 44 57	50 7 $\frac{1}{2}$	49 28 $\frac{1}{2}$	52 49 $\frac{1}{2}$	-2 22	29 64	70	174 28 15	Ramfden's Quadrant
	58 16			36 $\frac{1}{2}$	48 $\frac{1}{2}$					
	59 53			40	48 $\frac{1}{2}$					
	12 0 43			43	48					
	12 1 48	19 56 40 $\frac{1}{2}$	31 14 $\frac{1}{2}$	49 50	52 53	+3 26 $\frac{1}{2}$	29 68	65	174 41 7 $\frac{1}{2}$	Dollond's Quadrant
	3 39			54 $\frac{1}{2}$	53 $\frac{1}{2}$					
	4 33			56 $\frac{1}{2}$	52 $\frac{1}{2}$					
	5 54			50 1 $\frac{1}{2}$	58 $\frac{1}{2}$					
	10 14 41	20 9 28	33 37 $\frac{1}{2}$	49 0 $\frac{1}{2}$	41 22 $\frac{1}{2}$	-2 15 $\frac{1}{2}$	29 68	65	174 44 37 $\frac{1}{2}$	Ramfden's Quadrant
	16 19			48 48	22					
	18 41			34 $\frac{1}{2}$	21 $\frac{1}{2}$					
	20 0			27 $\frac{1}{2}$	21					
	21 54	10 27 5		18	20					
	24 21			31	20					
	27 5			47 49 $\frac{1}{2}$	41 25					
	30 7			32 $\frac{1}{2}$	23 $\frac{1}{2}$					
	31 41			25 $\frac{1}{2}$	22 $\frac{1}{2}$					
	33 0			18 $\frac{1}{2}$	22					
	34 24			12	21 $\frac{1}{2}$					
	36 37			01	21					

Observations at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Clock.	Apparent Time.	Zenith Dist. of the ☉'s L. L.	True Altitude of the ☉'s Center.	Distance of the ☉ and ☽'s Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Longitude.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	" "			° ' "	
8 Nov. 1.	13 51 59		27 42 ¹ / ₂		27 43					
	53 52		36 ¹ / ₂		42 ¹ / ₂					
	55 12		31 ¹ / ₂		42 ¹ / ₂					
	50 22	23 28 41 ¹ / ₂	27 ¹ / ₂	48 17	42	+3 30	29.38	71 ¹ / ₂	174 39 7 ¹ / ₂	Dollond's Quadrant.
	57 27		24 ¹ / ₂		41 ¹ / ₂					
	58 27		21 ¹ / ₂		41					
	14 0 30		27 15 ¹ / ₂		27 40 ¹ / ₂					
	1 46		12 ¹ / ₂		46					
	2 51	23 37 0 ¹ / ₂	9 ¹ / ₂	47 36 ¹ / ₂	45 ¹ / ₂	-2 45	29.38	71 ¹ / ₂	174 41 15	Ramsden's Quadrant.
	3 41		7		45 ¹ / ₂					
	6 30		1		44 ¹ / ₂					
	7 54		26 58		43 ¹ / ₂					

The following Observations were made on board the Ship; the Place of the Observatory bearing S. by W. $\frac{1}{4}$ W. by Compass, about Half a Mile Distant.

1774.	Time by the Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	True Altitude of the ☉'s Center.	Distance of the ☉ and ☽'s Limbs.	Error of the Quadrant.	Barometer.	Thermometer.	Latitude.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	" "			° ' "	
8 Nov. 8.	8 21 56		41 22							
	21 24 ¹ / ₂		27							
	22 52		31 ¹ / ₂			-2 44	29.35	60		
	23 23		37							
	23 51		42							
	24 24		47 ¹ / ₂							
			True Altitude of the ☉'s Center.							
9 — 9.	16 30 11 ¹ / ₂				68 50 ¹ / ₂					
	30 48				50 ¹ / ₂					
	31 30 ¹ / ₂	4 52 50	23 32 ¹ / ₂	66 20 ¹ / ₂	50 ¹ / ₂	+3 5	29.65	62	174 35 15	Dollond's Quadrant. Cloudy.
	32 10				51 ¹ / ₂					
	16 36 56				68 53					
	37 27				53 ¹ / ₂					
	38 24	4 59 49 ¹ / ₂	23 13 ¹ / ₂	66 18 ¹ / ₂	53 ¹ / ₂	-1 3 5	29.65	62	174 21 30	Dollond's Quadrant.
	38 45 ¹ / ₂				54					
	39 15				54 ¹ / ₂					
	16 50 29				69 5					
	52 42				5 ¹ / ₂					
	53 47	5 15 57	19 12 ¹ / ₂	65 50 ¹ / ₂	6 ¹ / ₂	-2 29	29.65	62	173 35 45	Ramsden's Quadrant. Very cloudy.
	55 13				6 ¹ / ₂					
	56 19				7					
	57 11				7 ¹ / ₂					

Observations at Queen Charlotte's Sound, Continued

Observations for the Dip of the Magnetic Needle

1774	Face of the Instrument	
	East	West
	o	o
8 Nov 1	63 35	64 15
	64 15	66 45
	64 25	65 30
	65 15	65 25
Mean	64 22½	65 28½
Changed the Poles and altered the Balancing		
	64 0	63 30
	64 30	66 30
	64 25	63 30
	64 25	65 45
	64 20	65 25
	64 20	65 30
Mean	64 20	65 17
Changed the Poles		
9 Nov 2	63 45	65 0
	63 15	65 45
Nov 2	63 25	65 20
	63 0	64 45
Mean	63 21½	65 12½

1774	Face of the Instrument	
	East	West
	o	o
Changed the Poles		
	66 30	64 40
	66 30	64 55
	66 30	66 20
	64 25	66 30
	64 50	66 40
Mean	65 45	65 49
Altered the Balancing		
	64 40	64 10
	64 20	64 0
	64 20	64 0
	63 20	63 55
	63 45	64 05
	64 40	65 45
	65 45	66 0
Mean	64 24½	64 33½

1774	Face of the Instrument	
	East	West
	o	o
First Mean	64 22½	65
Second ditto	64 20	65 11
Third ditto	63 21½	65 12½
Fourth ditto	65 45	65 11
Fifth ditto	64 21½	64 11
Mean of all	64 26½	65 1
Mean of all this year		64 1
Last year		64 21
First year		64 1
Mr Bayley's Observations		64 11
The mean of all		64 14½
N B It was the Needle's south end that dipped here		

N B It was the Needle's south end that dipped here

Computations of the Rate which Mr Kendall's Watch went at

1774	Time of Apparent Noon by the Clock	Time by the Clock when the Watch was compared	Time from Noon by the Clock	Clock gal. on W. h. since Noon	Time from Noon by the Watch	Time by the Watch when compared	Time of Apparent Noon by the Watch	Mean Time of Apparent Noon	Watch too slow for Mean Time
	H	M				H		H	M
7 Oct 22	13 47 14	28	13 51 15	4 07	0 58	4 01 14	11 39 0	11 34 59	86
8 — 23	13 50 45	29	14 13 46	13 121	3 33	22 57 88	11 58 0	11 35 21	12
9 — 24	13 54 19	11	14 5 13	10 54 39	1 57	10 52 82	11 46 0	11 35 7	18
10 — 26	14 01 28	25	14 8 9½	6 41 25	0 96	6 40 29	11 42 0	11 35 19	71
11 — 28	14 08 42	26	14 16 7½	7 25 21	1 07	7 24 14	11 43 0	11 35 35	86
12 — 31	14 10 36	89	14 41 37½	22 061	3 17	21 57 44	11 58 0	11 36 2	56
13 Nov 3	14 30 37	10	14 40 0	9 22 90	1 35	9 21 55	11 46 0	11 36 38	45
14 — 4	14 34 18	45	14 33 26½	0 52 10	0 13	0 52 07	11 36 0	11 36 52	07
15 — 5	14 38 00	44	14 38 54	0 53 51	0 13	0 53 38	11 38 0	11 37 06	62
								23 43 49	56

The mean gain is

By taking a mean of all the comparisons that can be formed out of these, the Watch's gain each day, on mean time will come out 12 576

Observations made at Christmas Sound, in Terra del Fuego.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.			
24 Dec. 22.	23 14	13		61 0 0		☉'s U. L.
						☉'s L. L.
		13 42 51	45 55½	58 40 0		☉'s U. L.
						☉'s L. L.
	5 44½	14 8 52½		55 0 0		☉'s U. L.
	9 39					☉'s L. L.
23.	16 49	14		49 20 0		☉'s U. L.
						☉'s L. L.
					18 19 14, 14	☉'s L. L.
	51 37	21		49 20 0		☉'s U. L.
		22		55 0 0		☉'s L. L.
	32 41½	22 39 34		58 40 0		☉'s U. L.
24.		22 55 39	52 34	58 40 0		☉'s L. L.
				61 0 0		☉'s U. L.
	15 14	23		62 0 0		☉'s L. L.
	21 21	13 24 26				☉'s U. L.
	25 14	28 19				☉'s L. L.
	52 01½	13		57 40 0		☉'s U. L.
25.			9 51½	56 0 0		☉'s L. L.
		14 10 49½			18 24 18, 83	☉'s L. L.
		22 37 44		56 0 0		☉'s U. L.
			38 34½	57 40 0		☉'s L. L.
	56 34	22		62 0 0		☉'s U. L.
	23 22	23 20 17				☉'s L. L.
26.	27 16	24 9				☉'s U. L.
	43 30½	13 46 36	49 40½	60 20 0		☉'s L. L.
	47 23½	50 28	53 32	58 20 0		☉'s U. L.
	57 42	14 0 52½	3 47½	56 0 0		☉'s L. L.
	1 30½	4 36	7 41			☉'s U. L.
	14 13½	14 17 16	20 23	51 0 0		☉'s L. L.
27.	18 04	21 11	24 17			☉'s U. L.
	50 7½	14 53 19½	56 30½			☉'s L. L.
	54 8	57 21	0 34		18 34 22, 91	☉'s U. L.
	14 35	22 11 18½	8 7	51 0 0		☉'s L. L.
	18 43	15 24½	12 6			☉'s U. L.
						☉'s L. L.

Observations at Christmas Sound, Continued

1774	Equal Altitudes Times by the Clock B			Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H			H	
Dec 26	50 38½	22 47 32		56 0 0		<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> O s L L O s U L O s L L O's U L O s L L O s U L </div> <div style="font-size: 2em; margin-right: 10px;">}</div> <div> Westerly Cloudy </div> </div>
	54 37	51 27	48 22			
	7 11½	23 4 7		58 20 0		
	21 23	23 18 18	15 9½	60 20 0		
	25 16½	22 12	19 9½			

*. The Clock was fixed up in the usual manner, and the pendulum vibrated 104 each way from the perpendicular

Meridian Zenith Distances of the Sun and Stars for the Latitude

1774	Zenith Distance				Exterior Arch reduced	Double Altitude of the O s L L	Barometer	Therm	Remarks, &c				
	Interior Arch	Exterior Arch											
	°	'	G S V	+ "	°								
b Dec. 24	61	27	52	65	2	9	9	61	28	28½	29,63	45	γ Orionis δ ε ζ α
	54	51	27	58	2	2	20	54	51	50			
	53	59	7	57	2	11	12	53	59	24½			
	53	15	57	56	3	9	12	53	16	20½			
	62	41	5	66	3	15	23	62	41	39½			
b — 26	32	13	52	34	1	17	7	32	14	9	29,56	49	O s L L } Dollond's Qn d nt Ramden's do γ Orionis δ ε ζ α
	61	27	20	65	2	7	24	61	27	51			
	54	50	55	58	2	1	20	54	51	24			
	53	58	27	57	2	10	5	53	58	51			
	53	15	33	56	3	8	9	53	15	51			
δ — 27	62	40	51	66	3	14	18	62	41	8½	29,55	51½	O's U L
	31	43	0	33	3	10	7	31	42	57			

Observations at Christmas Sound, Continued.

There being no convenient place within view of the Observatory, where I could fix up a proper mark for trying the line of collimation of the quadrant by, I took the following zenith distances of the summit of a distant mountain, and raised the stand of the quadrant just as much as its center was depressed by inverting it.

Quadrant direct.		Quadrant inverted and raised.		Computations of the Latitude.			
Interior Arch.	Exterior Arch.	Interior Arch.	Exterior Arch.	1774.	Latitude by the Interior Arch.	Exterior Arch.	By Hadley's Quadrant.
" " " G. S. V. +"	" " " G. S. V. +"	" " " G. S. V. +"	" " " G. S. V. +"		" " "	" " "	" " "
87 5 50	92 3 20 0	92 54 22	99 0 13 0	Dec. 26.	Ramlden's Quadrant		55 21 39
5 30	19 21	54 52	14 0		Dollond's ditto		55 21 6
5 30	19 13	54 22	13 0	27	Ramlden's ditto		55 21 25
5 33	19 17	53 52	12 0		The mean is		55 21 23
5 32	19 11	53 52	12 0		By the Sun.		
5 30	19 13	54 52	14 6	26.	55 22 17	55 22 27½	
5 55	19 0	54 40	13 18	27.	55 21 55½	55 21 46	55 22 6½
5 25	18 14	53 52	12 6		By γ Orionis.		
5 40	19 5	54 45	14 0	24.	55 22 4	55 22 34	
5 30	19 0	54 35	13 8	26.	55 21 33	55 21 57	55 22 2
5 25	17 20	54 45	13 23		By δ Orionis.		
Zenith Distance of the Top of a more distant Hill.				24.	55 21 53	55 22 9	
				26.	55 21 22	55 21 44	55 21 47
					By ε Orionis.		
88 40 50	94 2 11 23	91 19 0	97 1 19 22	24.	55 22 19	55 22 29	
41 1	12 8	19 0	20 21	26.	55 21 39	55 21 57	55 22 6
41 3	12 3	18 50	19 31		By ζ Orionis.		
40 43	11 21	18 50	20 0	24.	55 22 0½	55 22 17	
40 40	11 25	18 50	20 0	26.	55 21 37	55 21 48	55 21 56
The two first sets make the error of the line of collimation —"½ for the interior, and —5"½ for the exterior arches of the Quadrant; and the two latter sets make them +6"½ and —1"½ respectively: The means are +3"¼ and —3"¼.					By α Orionis.		
				24.	55 22 16	55 22 44	
				26.	55 22 4	55 22 13½	55 22 19½
					Mean of all		55 21 57 S.

Observations at Christmas Sound, Continued

Computations of the Clock's Rate of going

1774	Time of ap- parent Noon by the Clock	Syderial Time of apparent Noon	Clock too fast for Syderial Time	Clock gains on Syderial Time	If the difference between the first and last Observa- tions be taken, and divided by 3, the number of days be- tween, the Clock again each day, on Syderial Time will be only 36 ³ / ₁ Mr Kendall's Watch appeared to be gain- ing, when here, at the rate of 12 ³ / ₃₇₇ in 24h on mean time.
	H	H			
8 Dec 23	18 19 14 14	18 4 24,7	14 49,44	0 37,99	
5 — 24	24 18 83	8 51,4	15 27,43	0 35,47	
2 — 26	34 22,91	17 44,55	16 38,36	0 36,73	

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	True Ze- nith Dis- tance of ☉ s center	Zenith Distance of ☉ s U L	Distance of the ☉ and ☾ s Limbs	Error of the Qua- drant	Barom	Thermom	Longitude East	Remarks
	H	H			°					
8 Dec 26	11 50 10	17 17 44	76 39 ³ / ₄	56 39 ³ / ₄	87 1 ¹ / ₂	+4 1	29,64	46	289 55 0	Dollond's Quad Hazy
	51 51			35 ³ / ₄	87 0 ³ / ₄					
	53 16			31 ¹ / ₄	87 0					
	54 26			29	86 59 ³ / ₄					
	55 25			26 ¹ / ₄	59					
	56 29			23 ¹ / ₄	59					
	57 42			20	58 ¹ / ₂					
	58 26			18	58					
	59 25			16 ³ / ₄	57 ³ / ₄					
	12 0 25			13 ³ / ₄	57					
	12 3 16	17 29 32	75 2 ³ / ₄	56 8	87 0 ³ / ₄	+1 0	29,64	46	290 27 45	Rams- den's Quad Hazy
	4 29			5 ³ / ₄	87 0					
	5 19			4	87 0					
	6 14			2	86 59 ¹ / ₂					
	7 10			56 0	59					
	8 5			55 58	59					
	9 4			56	58 ¹ / ₂					
	9 52			54	58 ³ / ₄					
	10 42			52 ¹ / ₄	58					
	11 51			50	57 ¹ / ₂					

Observations at Christmas Sound, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	True Zenith Distance of ☉'s center.	Zenith Distance of ☉'s U. L.	Distance of the ☉ and ☉'s Limbs.	Error of the Quadrant.	Barom.	Thermom.	Longitude East.	Remarks.
	H M S	H M S	° ' "	° ' "	° ' "	"	"	"	° ' "	
Dec. 26.	13 29 49	18 53 39	63 25	55 38½	86 30	+ 1 0	29,60	47	290 43 30	Ramfden's Quad.
	31 14			40½	29½					
	32 12			42	29½					
	32 56			43½	29					
	34 3			45½	28½					
	13 36 38	19 0 15	62 29	55 49½	86 22½	+ 4 2	29,60	47	289 43 0	Dollond's Quad.
	37 29			51	22½					
	38 18½			52½	22					
	39 4			54	21½					
	39 46			55½	21½					
	40 35			56½	21					

The mean result of these four is $290^{\circ} 16' 25''$. The mean of ten Observations taken before we arrived here, and reduced to the place by Mr. Kendall's Watch, gave the Longitude of the Observatory $289^{\circ} 52' 52''$; seven taken after leaving the place gave $289^{\circ} 42' 12''$; the mean of the three is $289^{\circ} 57' 9\frac{1}{2}''$ E.

Observations at Chislmars Sound, Continued

Observed Azimuths of the Sun's Center for the Variation of the Compass

1774	Zenith Distance of the O U L	Azimuth of the O s center	Vari- ation East	1774	Zenith Distance of the O U L	Azimuth of the O s center	Vari- ation East
2 Dec 23	Gregory's Comps			20 Dec 25	Knight's Comps		
62 11 $\frac{1}{2}$	S 67 1 $\frac{1}{2}$ W			63 36 $\frac{1}{2}$	N 68 35 I		
62 20 $\frac{1}{2}$	66 10			63 30 $\frac{1}{2}$	68 45		24 2
62 25 $\frac{1}{2}$	68 45			63 21 $\frac{1}{2}$	68 50		
62 31 $\frac{1}{2}$	65 15	20 59		62 32 $\frac{1}{2}$	N 68 25 E		
62 45 $\frac{1}{2}$	63 45			62 24 $\frac{1}{2}$	68 0		24 13
63 39	64 20			62 19	67 55		
64 3	69 35			70 5	N 80 15 E		
Knight's Comps				69 53 $\frac{1}{2}$	80 0		
64 7 $\frac{1}{2}$	S 61 50 W			69 10	79 55		22 51
64 44	60 30			69 38	71 30		
64 50	59 55			69 30	79 15		
65 1 $\frac{1}{2}$	59 45	23 54 $\frac{1}{2}$		69 25	79 5		
65 9 $\frac{1}{2}$	59 45			Gregory's Comps			
65 17 $\frac{1}{2}$	59 25			68 35	N 73 55 E		
Gregory's Comps				68 21	75 50		
65 38	S 57 20 W			68 15 $\frac{1}{2}$	76 5		25 23
65 43 $\frac{1}{2}$	54 20			68 3 $\frac{1}{2}$	77 0		
65 56 $\frac{1}{2}$	56 10	27 17		67 52 $\frac{1}{2}$	76 50		
66 11	54 35			67 46	72 0		

The disagreement which is found amongst these variations is not to be attributed to any mistake in the Observations, for the Compasses, and especially that of Gregory's, would, while here point frequently five, six, and sometimes even eight and ten degrees different when directed to the same object. I cannot assign any reason for this strange circumstance; the Compasses performed well enough both before and after leaving the place.

Observations for the Dip of the Needle at South End

1774	Face of the East	Instrument Well	1774	Face of the Instrument East	Well	1774	Face of the Instrument East	Well
4 Dec 23	66 20	68 0	2 Dec 23	Altered the Balance		2 Dec 23	Changed the Pole	
	66 50	67 00		65 00	66 15		67 50	67 30
Changed the Pole				65 35	65 50		67 45	66 55
				65 25	66 05		67 20	67 0
	63 25	67 0	Changed the Pole			Changed the Pole		
	66 40	66 55	67 10	66 15	65 40	66 20		
	67 0	66 45	67 35	67 15	67 15	66 50		
	69 10	66 30	66 40	67 15	66 25	6 25		
					The mean of all is			
					66 5 6			

Observations at Christmas Sound, Continued.

Observations on the Tides.

1774.	Time by the Clock.	Apparent Time.	Height of the Water.	Remarks, &c.	1774.	Time by the Clock.	Apparent Time.	Height of the Water.	Remarks, &c.
H	H	F. l.			H	H	F. l.		
24 Dec. 22.			0 6½	Low Water.	24 Dec. 24.	23 38		2 3	
23 15			1 10					3 3	High Water, Evening
23 32			2 0					4 4½	Ditto, Morning.
0 30½	6 15½		2 4½	High Water.	25.			1 3½	Low Water.
1 16			2 0					4 1	High Water, Evening.
1 40			1 10						The mark was again disturbed by the boats.
10 40			3 4			18 14		2 4½	
10 56			3 7			18 33		2 2	
11 14½	17 26½		3 8½	High Water.	26.	18 50		1 11½	
11 30			3 7			19 4		1 10	
12 8			3 4			19 20		1 9	
The mark was disturbed by the boats.						21 20½	2 45½	1 2	Low Water.
2 — 23.			0 5	Low Water.		23 28		1 9	
23 36			1 9			23 40		1 10	
23 43			2 4			23 50		1 11½	
0 2			2 5½			0 6		2 2	
0 13			2 6½			0 20		2 4½	
1 37½	7 17½		2 8½	High Water.		2 40		3 5	
3 2			2 6½			2 56		3 6	
3 15			2 5½			3 51½	9 15	3 9	High Water.
3 31			2 4			4 45		3 6	
11 15			3 8½			5 5		3 5	
11 40			3 9			12 15		3 0	
12 19½	17 56½		3 10	High Water.		12 30		3 1½	
13 7			3 9			12 45		3 2½	
13 12			3 8½			13 20		3 4½	
15 53			2 3			15 8½	21 29½	3 10½	High Water.
16 28			1 11			17 7		3 4½	
16 42			1 7½			17 30		3 2½	
2 — 24.			0 5½	Low Water.		17 40		3 1½	
19 47½	1 23½		1 7½			18 0		3 0	
22 50			1 7½		27.			1 2½	Low Water.
23 15			1 11						

From these Observations, it appears that the Moon passes the meridian about 2½ hours before it is high water at this place: Mean height of the morning tides, three feet 1⅞ inches, the Moon being then above the horizon, the mean evening tide was two feet seven inches.

Observations made at the Cape of Good Hope

1775	Equal Altitudes Times by the Clock B			Zenith Distance	Azimuth of ☉'s center from the North at the times of equal Altitudes			Time of ap- parent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire.	Upper Wire.		Lower Wire	Middle Wire	Upper Wire		
	H	"	"		"	"	"		
14 March 23	2 6 $\frac{1}{2}$	17 4 19 $\frac{1}{2}$	6 31 $\frac{1}{2}$	71 40 c					☉ U I } Easterly
	4 51 $\frac{1}{2}$	7 2	9 13 $\frac{1}{2}$						☉ I I }
	29 3 $\frac{1}{2}$	17 31 17	33 31 $\frac{1}{2}$	66 20 o					☉ U I }
	31 49	34 4 $\frac{1}{2}$	36 17 $\frac{1}{2}$						☉ I I }
24	34 16 $\frac{1}{2}$	1 32 2 $\frac{1}{2}$	32 36 $\frac{1}{2}$	66 20 o				21 33 15,73	☉ I I, } Easterly
	37 2 $\frac{1}{2}$	34 49	56 53						☉ U I }
	1 13	1 59 2 $\frac{1}{2}$	59 36	71 40 o					☉ L I } Westerly
	3 57 $\frac{1}{2}$	2 1 46 $\frac{1}{2}$	39 23 $\frac{1}{2}$	66 o o					☉ U L }
	31 54	17 37 10 $\frac{1}{2}$	42 10 $\frac{1}{2}$						☉ U L }
	37 41 $\frac{1}{2}$	39 57 $\frac{1}{2}$							☉ L L } Easterly
25	34 17 $\frac{1}{2}$	1 32 2	32 35 $\frac{1}{2}$	66 o o				21 36 12,22	☉ L L }
	54 42 $\frac{1}{2}$	17 56 58	59 15 $\frac{1}{2}$	63 o o					☉ U L } Westerly
	57 31 $\frac{1}{2}$	59 49 $\frac{1}{2}$	2 8						☉ U L } Easterly
	20 19	1 18 1 $\frac{1}{2}$	18 36 $\frac{1}{2}$	63 o o				21 39 7,95	☉ L L } Very hazy
	23 10 $\frac{1}{2}$	20 53							☉ I L } Westerly
									☉ U L } Cloudy
In the morning I found the Clock had stopped, occasioned by the thickness of a new glass which I had got put before its face the old one being broke in taking down the Clock at Otabelle									
	39 20 $\frac{1}{2}$	20 41 39 $\frac{1}{2}$	43 56 $\frac{1}{2}$	63 o o					☉ U I, } Easterly
	42 13	14 31 $\frac{1}{2}$	46 49 $\frac{1}{2}$						☉ L, I, }
	51 44 $\frac{1}{2}$	20 54 5 $\frac{1}{2}$		60 40 o					☉ U I }
	54 39 $\frac{1}{2}$	57 0 $\frac{1}{2}$						0 22 28 6	☉ L, I }
27	49 55 $\frac{1}{2}$	3 47 32	45 12	60 40 o					☉ I I }
	2 19 $\frac{1}{2}$	4 0 1 $\frac{1}{2}$	57 43 $\frac{1}{2}$	63 o o					☉ U I }
	5 12		0 36						☉ L L }
	10 6 $\frac{1}{2}$	20 42 24	44 41 $\frac{1}{2}$	63 40 o					☉ U I }
	50 42	20 45 15 $\frac{1}{2}$	47 33						☉ U L }
	53 35 $\frac{1}{2}$	55 55 $\frac{1}{2}$	58 16	61 40 o				0 25 24,71	☉ I I }
28	56 48 $\frac{1}{2}$	3 54 30 $\frac{1}{2}$	52 8 $\frac{1}{2}$	61 40 o					☉ U I }
	59 42 $\frac{1}{2}$	57 23 $\frac{1}{2}$	55 5 $\frac{1}{2}$						☉ L L }
	7 26 $\frac{1}{2}$	4 5 8		63 40 o					☉ U L }
	10 18 $\frac{1}{2}$	8 0 $\frac{1}{2}$	5 43 $\frac{1}{2}$						☉ L L }
	55 59 $\frac{1}{2}$	20 57 21	59 41 $\frac{1}{2}$	61 40 o					☉ U I }
	57 54 $\frac{1}{2}$	21 0 16	2 37					0 28 19,36	☉ I I }
29	58 19 $\frac{1}{2}$	3 55 58 $\frac{1}{2}$	53 37 $\frac{1}{2}$	61 40 o					☉ L L }
	1 11 $\frac{1}{2}$	58 53 $\frac{1}{2}$	56 34 $\frac{1}{2}$						☉ U L }
	38 1 $\frac{1}{2}$	20 40 21	42 38	63 40 o					☉ L L }
	40 54	43 13	45 30 $\frac{1}{2}$					0 31 14 19	☉ U I }
30	21 8 $\frac{1}{2}$	4 18 51	16 33	65 40 o					☉ L L }
	24 0 $\frac{1}{2}$	21 42	19 26						☉ U L }
	15 21	20 37 37 $\frac{1}{2}$	39 51 $\frac{1}{2}$	67 o o					☉ U, L }
	18 8	40 26 $\frac{1}{2}$	42 41 $\frac{1}{2}$					0 34 10,68	☉ L L }
31									☉ L L } Easterly

Observations at the Cape of Good Hope, Continued.

1775.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Azimuth of ☉'s center from the North, at the times of equal Altitudes.			Time of ap- parent Noon by the Clock.	Phenomena and Remarks.
	Lower Wire.	Middle Wire.	Upper Wire.		Lower Wire.	Middle Wire.	Upper Wire.		
♀ March 31.	29 46½ 32 36	4 27 29½ 30 19 20 43 32½	25 13 28 4 45 49½	67 0 0 66 40 0					☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ April 1.	44 4½ 29 40½ 32 31 31 32½ 34 21½ 45 27½ 48 18½	4 27 22½ 30 17 20 33 40½ 36 38 20 47 45½ 50 37½	25 5½ 27 57½ 38 54 50 2½ 52 56	66 40 0 69 20 0 66 40 0				0 37 5,75	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
☉ — 2.	31 16 34 8½	4 28 57½ 31 50 4 42 58	26 40 29 32½ 40 41½	66 40 0 69 20 0				0 40 0,27	☉'s L. L. } ☉'s U. L. } Westerly. ☉'s L. L. } ☉'s U. L. }
♂ — 4.	48 2½ 6 12½ 9 32½	45 46 8 55 12 16	43 32½ 11 35½ 14 58½	69 20 0 54 40 0					☉'s U. L. } Easterly. ☉'s L. L. }
♀ — 5.	27 57 30 38 43 0½ 45 49½ 57 3½ 59 56	3 24 52½ 28 16 20 45 17½ 48 6½ 20 59 23½ 21 2 17½	22 9 25 34 47 34 50 24½ 1 43 4 36½	54 40 0 70 20 0 67 40 0				0 48 46,31	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s U. L. } ☉'s L. L. } Easterly. ☉'s U. L. } ☉'s L. L. }
♂ — 6.	42 57½ 45 52 57 6½ 59 56 55 54½ 58 49½ 10 14½ 13 8½	4 40 38½ 43 31½ 4 54 46½ 57 39½ 20 58 15½ 21 1 8½ 21 12 36½ 15 32½	41 12½ 52 31 55 21 0 35½ 3 28½ 14 57½	67 40 0 70 20 0 68 40 0 66 0 0	Var. 89 0 86 20 86 45	21 32½ 88 25 86 45 85 55	West. 88 30 87 45 86 15 85 55	0 51 40,5	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. }
♀ — 7.	35 41 38 36½ 49 57½	4 33 18 36 15 4 47 40½	30 56 33 53½ 45 21	66 0 0 68 40 0				0 54 37,38	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. }
♂ — 8.	55 37 58 27 9 40½ 12 44½	20 57 55 21 0 45 21 12 11½ 15 7½	0 12½ 3 4½ 14 32 17 27½	70 20 0 67 40 0					☉'s U. L. } Easterly. ☉'s L. L. } ☉'s U. L. } ☉'s L. L. }
☉ — 9.	47 54½ 50 52½ 2 11 5 1½ 6 54 9 48½	4 45 33½ 48 28½ 4 59 50½ 5 2 43 21 9 10½ 12 10½	43 11½ 46 8½ 57 82 0 24½ 11 35½ 14 31½	67 40 0 70 20 0 69 0 0				1 0 32,08	☉'s L. L. } Westerly. ☉'s U. L. } ☉'s L. L. } ☉'s U. L. } Easterly. ☉'s L. L. }
♂ — 10.	56 43 59 38	4 54 22½ 57 17	52 2½ 54 57	69 0 0				1 3 29,16	☉'s L. L. } Westerly. ☉'s U. L. }

Observations at the Cape of Good Hope, Continued

1775	Equal Altitudes Times by the Clock B			Zenith Distance	Azimuth of the Center from the North at the Times of equal Altitude			Time of Apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire		Lower Wire	Middle Wire	Upper Wire		
April 12	17 54 $\frac{1}{2}$	21 20 20	22 42	69 20 0				11	☉ : U L } Easterly ☉ : L L } ☉ : U L } ☉ : L L }
13	20 53	23 15 $\frac{1}{2}$	25 39	66 40 0				1 12 29.72	☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
14	32 54 $\frac{1}{2}$	21 35 0	37 25 $\frac{1}{2}$	69 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15	35 33 $\frac{1}{2}$	38 0 $\frac{1}{2}$		70 20 0				1 18 29 49	☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
16	49 1 $\frac{1}{2}$	4 46 35	44 7 $\frac{1}{2}$	66 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
17	52 1	49 35	47 10	69 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
18	3 39	5 1 18	58 55 $\frac{1}{2}$	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
19	6 36 $\frac{1}{2}$	4 12 $\frac{1}{2}$	1 51 $\frac{1}{2}$	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
20	21 8 $\frac{1}{2}$	21 23 30 $\frac{1}{2}$		70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
21	24 3 $\frac{1}{2}$	26 26 $\frac{1}{2}$	28 49 $\frac{1}{2}$	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
22	12 30 $\frac{1}{2}$	5 10 7 $\frac{1}{2}$	7 45	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
23	15 24	13 3	10 42	70 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
24	The Clock stopped again to day for a few seconds by the glass pressing against the minute hand								☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
25	37 15 $\frac{1}{2}$	22 40 4	42 52 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
26	40 43	43 33 $\frac{1}{2}$		58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
27	6 41 $\frac{1}{2}$	4 3 51 $\frac{1}{2}$	1 1 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
28	10 9 $\frac{1}{2}$	7 21	4 33 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
29	24 4 $\frac{1}{2}$	23 27 31 $\frac{1}{2}$	30 58	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
30	28 18 $\frac{1}{2}$	31 47 $\frac{1}{2}$	35 17 $\frac{1}{2}$	58 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
31		3 21 37	18 7	52 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
1		25 58	32 29	70 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
2	39 32 $\frac{1}{2}$	21	44 21	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
3	42 30	21 44 56	47 21	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
4	52 35	21 55 4 $\frac{1}{2}$	57 31	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
5	55 40		0 16	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
6	3 53	5 1 23	58 55	67 40 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
7	6 59 $\frac{1}{2}$	4 27 $\frac{1}{2}$	2 1	70 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
8	17 1	5 14 35	12 11	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
9	20 2 $\frac{1}{2}$	17 35 $\frac{1}{2}$	15 11 $\frac{1}{2}$	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
10	55 4	21 57 34 $\frac{1}{2}$	0 3	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
11	58 7 $\frac{1}{2}$	22 0 38	3 6	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
12		5 4 56	2 29	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
13	10 29	7 57 $\frac{1}{2}$	5 33	68 0 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
14	6 17 $\frac{1}{2}$	22 8 48 $\frac{1}{2}$	11 18	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
15	9 22	11 53 $\frac{1}{2}$	14 24 $\frac{1}{2}$	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
16	14 26	5 11 54 $\frac{1}{2}$		68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }
17	17 32 $\frac{1}{2}$	15 11	12 31	68 20 0					☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L } ☉ : U L } ☉ : L L }

The Clock was fixed up in the usual manner

The pendulum vibrated $1^{\circ}\frac{1}{2}$ each way from the perpendicular, until April 9, after which its vibrations were $1^{\circ}\frac{1}{2}$ each way until it was taken down

Observations at the Cape of Good Hope, Continued.

Observed Times of the transits of the Sun, Moon, and Stars, over the Meridian.

1775.	Times by the Clock B.					Phenomena.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	"	"	H "	"	"	
☉ March 26.	33 23 $\frac{1}{2}$	34 5 $\frac{1}{2}$ 36 14	21 34 48 36 56 $\frac{1}{2}$	35 31 37 39 $\frac{1}{2}$	38 21 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
	Moved the stand of the Instrument a small matter, so as to carry it to the westward, and fixed it very firmly.					
☽ — 27.	20 9 $\frac{1}{2}$	20 51 $\frac{1}{2}$ 23 0 $\frac{1}{2}$	0 21 34 $\frac{1}{2}$ 0 23 43	22 17 $\frac{1}{2}$ 24 26 $\frac{1}{2}$	25 8 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
	Moved the Instrument, by means of the screw, to the eastward.					
♂ — 28.	31 54 $\frac{1}{2}$ 24 17 23 1 $\frac{1}{2}$	32 38 24 59 $\frac{1}{2}$ 23 43 25 52 $\frac{1}{2}$ 0 31 $\frac{1}{2}$	6 33 23 7 25 4 $\frac{1}{2}$ 0 24 25 $\frac{1}{2}$ 0 26 34 $\frac{1}{2}$ 5 1 14	34 7 $\frac{1}{2}$ 26 25 25 9 27 17 $\frac{1}{2}$ 1 58	34 51 27 7 27 59 $\frac{1}{2}$ 2 39 $\frac{1}{2}$ 41 55 $\frac{1}{2}$	Syrus. Procyon. ☉'s 1st Limb. ☉'s 2d Limb. Rigel. α Orionis.
	39 5 $\frac{1}{2}$ 31 12 $\frac{1}{2}$ 16 4 $\frac{1}{2}$ 23 3 $\frac{1}{2}$ 27 26	39 47 $\frac{1}{2}$ 31 56 $\frac{1}{2}$ 16 54 24 16 $\frac{1}{2}$ 28 13 $\frac{1}{2}$ 36 12	5 40 29 $\frac{1}{2}$ 6 32 41 7 17 44 7 24 59 7 29 1 $\frac{1}{2}$ 19 36 55	41 14 $\frac{1}{2}$ 33 26 18 35 $\frac{1}{2}$ 25 42 $\frac{1}{2}$ 29 51 37 38 $\frac{1}{2}$	41 55 $\frac{1}{2}$ 34 9 19 24 $\frac{1}{2}$ 26 24 $\frac{1}{2}$ 30 38 $\frac{1}{2}$ 55 48 $\frac{1}{2}$	Syrus. Castor. Procyon. Pollux. α Aquilæ. ☉'s 2d Limb.
♀ — 29.	52 54 $\frac{1}{2}$	53 38 26 37 $\frac{1}{2}$	22 54 21 $\frac{1}{2}$ 0 27 20 0 29 29 $\frac{1}{2}$	55 6 $\frac{1}{2}$ 30 12 $\frac{1}{2}$ 1 14 $\frac{1}{2}$	55 48 $\frac{1}{2}$ 1 56 $\frac{1}{2}$	☉'s 1st L. } Capt. Cook ☉'s 2d L. } Rigel. α Orionis.
	59 5 $\frac{1}{2}$	59 48 39 4 $\frac{1}{2}$	5 0 31 5 39 47 $\frac{1}{2}$	40 31 32 42 $\frac{1}{2}$	33 26	Syrus. α Aquilæ, cloudy.
♂ — 30.	30 29 $\frac{1}{2}$	31 13 $\frac{1}{2}$	6 31 58 19 36 11 0 30 14 $\frac{1}{2}$	30 58 $\frac{1}{2}$ 33 7 $\frac{1}{2}$	33 48 $\frac{1}{2}$	☉'s 1st L. } Cloudy. ☉'s 2d L. } α Orionis.
	37 38 $\frac{1}{2}$ 29 46 $\frac{1}{2}$	38 21 $\frac{1}{2}$ 30 30	5 39 4 6 31 14 $\frac{1}{2}$	39 47 31 59 $\frac{1}{2}$	40 29 32 42 $\frac{1}{2}$	Syrus.
	Moved the Instrument a little more to the eastward, by means of the horizontal screw.					
♀ — 31.	31 43 $\frac{1}{2}$	32 24 $\frac{1}{2}$	0 23 8 0 35 17	33 51 36 0 $\frac{1}{2}$	34 33 36 42 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
♂ April 1.	33 52 34 38 $\frac{1}{2}$	34 33 $\frac{1}{2}$ 35 21	0 36 3 $\frac{1}{2}$ 0 38 13	36 47 38 56	37 28 $\frac{1}{2}$ 39 37 $\frac{1}{2}$	☉'s 1st Limb. ☉'s 2d Limb.
	36 47 $\frac{1}{2}$ 13 8	37 30 13 57	7 14 47 $\frac{1}{2}$ 7 22 4 $\frac{1}{2}$	15 39 22 48	16 28 23 29 $\frac{1}{2}$	Castor. Procyon.
	20 39 $\frac{1}{2}$	21 22 $\frac{1}{2}$	7 26 5 $\frac{1}{2}$ 9 11 2 $\frac{1}{2}$	11 46 51 37	12 27 $\frac{1}{2}$	Pollux. α Hydra. Regulus.
	9 37	10 19 $\frac{1}{2}$ 50 9	9 50 52 $\frac{1}{2}$			

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars over the Meridian

1775	Times by the Clock B					Phenomena
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
			H			
○ April 2	37 32 $\frac{1}{2}$	38 15	0 38 57 $\frac{1}{2}$	39 41		○ s 1st L imb
		40 24 $\frac{1}{2}$	0 41 7 $\frac{1}{2}$	41 50 $\frac{1}{2}$	42 31 $\frac{1}{2}$	○ s 2d L imb
	27 52 $\frac{1}{2}$	28 36	2 29 20 $\frac{1}{2}$	30 5	30 48 $\frac{1}{2}$	○ s 1st L imb
	15 28 $\frac{1}{2}$	16 12 $\frac{1}{2}$	4 16 56 $\frac{1}{2}$	17 41	18 24 $\frac{1}{2}$	Aldebaran
		56 54	4 57 36 $\frac{1}{2}$	58 20		Rigel
	35 27	36 9 $\frac{1}{2}$	5 36 52 $\frac{1}{2}$	37 36	38 17 $\frac{1}{2}$	α Orionis
	27 36	28 19 $\frac{1}{2}$	6 29 4	29 48 $\frac{1}{2}$	30 32 $\frac{1}{2}$	Syrus
	12 23 $\frac{1}{2}$	13 12 $\frac{1}{2}$	7 14 3 $\frac{1}{2}$	14 54 $\frac{1}{2}$	15 43 $\frac{1}{2}$	Castor
	19 55 $\frac{1}{2}$	20 37 $\frac{1}{2}$	7 21 20 $\frac{1}{2}$	22 3 $\frac{1}{2}$	22 45	Procyon
		24 33	7 25 21 $\frac{1}{2}$	26 10 $\frac{1}{2}$		Pollux
☾ — 3	40 28 $\frac{1}{2}$	41 10	0 41 53	42 36 $\frac{1}{2}$		○ s 1st L } Cloudy
☾ — 4	43 23 $\frac{1}{2}$	44 6	44 2 $\frac{1}{2}$	44 45 $\frac{1}{2}$	45 25 $\frac{1}{2}$	○ s 2d L } Cloudy
		46 15 $\frac{1}{2}$	0 46 58 $\frac{1}{2}$	47 41 $\frac{1}{2}$	48 23 $\frac{1}{2}$	○ s 1st L } Cloudy
☾ — 5	46 19 $\frac{1}{2}$	47 1 $\frac{1}{2}$	0 47 44	48 27 $\frac{1}{2}$		○ s 2d L } Cloudy
		49 11	0 49 53 $\frac{1}{2}$	50 36 $\frac{1}{2}$	51 16 $\frac{1}{2}$	○ s 1st L } Cloudy
	13 19 $\frac{1}{2}$	14 3	4 14 47 $\frac{1}{2}$	15 32 $\frac{1}{2}$	16 15 $\frac{1}{2}$	Aldebaran
	54 2 $\frac{1}{2}$	54 44 $\frac{1}{2}$	4 55 27 $\frac{1}{2}$	56 11 $\frac{1}{2}$	56 53	Rigel
	5 41 $\frac{1}{2}$	6 27	5 7 13	7 59 $\frac{1}{2}$	8 44	○ s 1st L imb
	33 17 $\frac{1}{2}$	34 0 $\frac{1}{2}$	5 34 44	35 20 $\frac{1}{2}$	36 8 $\frac{1}{2}$	α Orionis
	25 27	26 11	6 26 55 $\frac{1}{2}$	27 40	28 23	Syrus
	10 13 $\frac{1}{2}$	11 3 $\frac{1}{2}$	7 11 54	12 44 $\frac{1}{2}$	13 34	Castor
	17 46	18 28 $\frac{1}{2}$	7 19 11	19 54 $\frac{1}{2}$	20 36	Procyon
		22 23 $\frac{1}{2}$	7 23 12	24 1 $\frac{1}{2}$		Pollux
☾ — 6	49 14 $\frac{1}{2}$	49 56 $\frac{1}{2}$	0 50 39	51 39		○ s 1st L imb
		52 5 $\frac{1}{2}$	52 48 $\frac{1}{2}$	53 32 $\frac{1}{2}$	54 13 $\frac{1}{2}$	○ s 2d L
	12 36 $\frac{1}{2}$	13 19 $\frac{1}{2}$	4 14 3 $\frac{1}{2}$	14 48 $\frac{1}{2}$	15 31 $\frac{1}{2}$	Aldebaran
	32 34	33 15 $\frac{1}{2}$	5 33 59 $\frac{1}{2}$	34 43	35 25 $\frac{1}{2}$	α Orionis
	57 43 $\frac{1}{2}$	58 29	5 59 15 $\frac{1}{2}$	0 2 $\frac{1}{2}$	0 46 $\frac{1}{2}$	○ s 1st Limb
		25 27 $\frac{1}{2}$	6 26 11 $\frac{1}{2}$	26 57		Syrus
	9 29 $\frac{1}{2}$	10 19 $\frac{1}{2}$	7 11 9 $\frac{1}{2}$	12 1	12 50	Castor
On examining the Transit Instrument this morning, I found that the level shewed the west end to be a small matter the highest. Adjusted it, and moved the Instrument a little more to the eastward as well to be nearer the plane of the Meridian, as to make the middle wire coincide with the sharp edge of a cliff in the Table Mountain which being seen against the sky, formed a much better Meridian Mark than what I had before.						
☾ — 7	54 18	55 0 $\frac{1}{2}$	0 53 33 $\frac{1}{2}$	54 16 $\frac{1}{2}$	54 59	○ s 1st L } Cloudy
			0 55 42 $\frac{1}{2}$			○ s 2d L } Cloudy
☾ — 8	52 34 $\frac{1}{2}$	53 17 $\frac{1}{2}$	4 54 0 $\frac{1}{2}$	54 43 $\frac{1}{2}$	55 25 $\frac{1}{2}$	Rigel
		0 52 $\frac{1}{2}$	5 1 40 $\frac{1}{2}$	2 29 $\frac{1}{2}$		β Tauri

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B					Phenomena, &c
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H	"	"	
4 April 13	9 53 $\frac{1}{2}$	10 41	1 11 24 $\frac{1}{2}$			O s 1st Limb
			13 34 $\frac{1}{2}$	14 18	15 0 $\frac{1}{2}$	O's 2d Limb
		5 28 $\frac{1}{2}$	6 21 21			Syrius
		12 54	7 6 18 $\frac{1}{2}$	7 0 $\frac{1}{2}$		Castor
			7 13 37	14 20 $\frac{1}{2}$		Procyon
			7 17 37 $\frac{1}{2}$			Pollux
	1 10 $\frac{1}{4}$	1 52 $\frac{1}{4}$	9 2 35 $\frac{1}{2}$	3 19	4 1	α Hydræ
			11 24 58 $\frac{1}{2}$			β Virginis
	44 44 $\frac{1}{2}$	45 26 $\frac{1}{2}$	11 46 11	46 55	47 37	O s 1st Limb Topsy
	57 53 $\frac{1}{2}$		12 59 10 $\frac{1}{2}$	0 4	0 45 $\frac{1}{2}$	Spica α Very foggy
8 — 14	1 59	13 41 $\frac{1}{2}$	1 14 20			O s 1st Limb
			16 34 $\frac{1}{2}$	17 18 $\frac{1}{2}$	18 0 $\frac{1}{4}$	O s 2d Limb
	3 58 $\frac{1}{2}$	4 47 $\frac{1}{2}$	7 5 36 $\frac{1}{2}$	6 29 $\frac{1}{2}$	7 18 $\frac{1}{2}$	Castor
		12 14	7 12 56 $\frac{1}{2}$	13 40		Procyon
			7 16 56 $\frac{1}{2}$			Pollux
		1 12	9 1 56 $\frac{1}{2}$	2 39		α Hydræ
	22 53 $\frac{1}{2}$	23 36	11 24 18 $\frac{1}{2}$	25 2	25 43 $\frac{1}{2}$	β Virginis
			12 36 50			γ Virginis
6 — 15	57 14	57 56 $\frac{1}{2}$	12 58 39 $\frac{1}{2}$	59 23	0 16	Spica Virginis
		16 42 $\frac{1}{2}$	1 17 25 $\frac{1}{2}$	18 9 $\frac{1}{2}$		O s 1st Limb
		18 52 $\frac{1}{2}$	19 36	20 19 $\frac{1}{2}$		O s 2d Limb
	3 18	4 7 $\frac{1}{2}$	7 4 58	5 49	6 38	Castor
			7 12 16 $\frac{1}{2}$			Procyon
			9 1 15			α Hydræ
	56 33 $\frac{1}{2}$	57 15	12 57 59 $\frac{1}{2}$	58 43 $\frac{1}{2}$	59 25 $\frac{1}{2}$	Spica Virginis
	25 33	26 16 $\frac{1}{2}$	13 27 0	27 4 $\frac{1}{2}$		O s 1st L 2h 18 past the 8
		28 26 $\frac{1}{2}$	29 10 $\frac{1}{2}$	29 55	30 37	O s 2d Limb
	48 30	49 14	13 49 59 $\frac{1}{2}$	50 45 $\frac{1}{2}$	51 30	Arcturus
O — 16	18 22 $\frac{1}{2}$	19 5 $\frac{1}{2}$	1 19 48 $\frac{1}{2}$			O s 1st Limb
			21 58	22 42 $\frac{1}{2}$	23 24 $\frac{1}{2}$	O s 2d Limb
D — 17	21 23 $\frac{1}{2}$	22 6	1 22 49 $\frac{1}{2}$	23 24		O s 1st Limb
		24 16	24 59 $\frac{1}{2}$	25 43	26 26	O s 2d Limb
J — 18	Clouds	6 57	15 5 45	8 23 $\frac{1}{2}$	Clouds	α Cor Bor
		1 25 $\frac{1}{2}$	7 2 20	3 11		Castor
		8 54 $\frac{1}{2}$	7 9 37 $\frac{1}{2}$	10 20 $\frac{1}{2}$		Procyon
			7 13 38 $\frac{1}{2}$			Pollux
	46 58 $\frac{1}{2}$	37 41	9 38 25	39 9 $\frac{1}{2}$	39 5 $\frac{1}{2}$	Regulus
	45 58	56 44 $\frac{1}{2}$	15 57 32 $\frac{1}{2}$	38 20 $\frac{1}{2}$	59 6 $\frac{1}{2}$	Antares
		58 43	15 59 30 $\frac{1}{2}$	0 18 $\frac{1}{2}$		Small * following Antares
	2 13 $\frac{1}{2}$	3 0	16 3 48 $\frac{1}{2}$	4 37	5 24	γ Scorpi

Observations at the Cape of Good Hope, Continued.

Observed Times of the Transits of the Sun, Moon and Stars over the Meridian.

1775.	Times by the Clock B.					Phenomena, &c.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
April 18.	14 1	14 46:	16 15 32 $\frac{1}{2}$	16 17 $\frac{1}{2}$	Clouds.	γ 's 2d Limb.
	4 54 $\frac{1}{2}$	5 36 $\frac{1}{2}$	17 6 21 $\frac{1}{2}$	7 5 $\frac{1}{2}$	7 48	α Ophiuchi.
— 19.	27 27 $\frac{1}{2}$	28 10	1 28 53 $\frac{1}{2}$			\odot 's 1st Limb.
			31 4 $\frac{1}{2}$	31 48 $\frac{1}{2}$	32 30 $\frac{1}{2}$	\odot 's 2d Limb.
	59 58	0 47 $\frac{1}{2}$	7 1 38 $\frac{1}{2}$	2 29	3 18 $\frac{1}{2}$	Castor.
	7 31 $\frac{1}{2}$	8 14:	7 8 56 $\frac{1}{2}$	9 40	10 22	Procyon.
	11 20	12 8 $\frac{1}{2}$	7 12 56 $\frac{1}{2}$	13 45 $\frac{1}{2}$	14 33	Pollux.
	4 12 $\frac{1}{2}$	4 55 $\frac{1}{2}$	17 5 39	6 23 $\frac{1}{2}$	7 6	α Ophiuchi.
	8 9:	8 50 $\frac{1}{2}$	17 9 33 $\frac{1}{2}$	10 16 $\frac{1}{2}$	10 58	†
	14 8 $\frac{1}{2}$	14 54 $\frac{1}{2}$	17 15 40 $\frac{1}{2}$	16 27	17 12	γ 's 2d Limb.
		26 4 $\frac{1}{2}$	17 26 48 $\frac{1}{2}$	27 34		These three Stars are in the telescope together,
	27 59 $\frac{1}{2}$	28 43 $\frac{1}{2}$	17 29 28	30 13		and nearly in the same parallel of declination;
		31 40 $\frac{1}{2}$	17 32 25	33 10		the middle one is (I believe) the 394th in La
		8 2	18 8 56 $\frac{1}{2}$	9 52		Caille's Catalogue.
	8 38	9 31 $\frac{1}{2}$	18 10 26	11 21 $\frac{1}{2}$	12 14	Small * preceding α Lyrae.
— 20.	30 27 $\frac{1}{2}$	31 10	1 31 53 $\frac{1}{2}$			α Lyrae.
			34 5	34 48 $\frac{1}{2}$	35 31	\odot 's 1st Limb.
	59 16 $\frac{1}{2}$	0 6 $\frac{1}{2}$	7 0 56 $\frac{1}{2}$	1 47 $\frac{1}{2}$	2 36 $\frac{1}{2}$	\odot 's 2d Limb.
	6 49 $\frac{1}{2}$	7 32 $\frac{1}{2}$	7 8 14 $\frac{1}{2}$	8 57 $\frac{1}{2}$	9 39 $\frac{1}{2}$	Castor.
	10 38 $\frac{1}{2}$	11 26 $\frac{1}{2}$	7 12 15	13 4	13 51	Procyon.
— 21.			1 34 56 $\frac{1}{2}$	35 39 $\frac{1}{2}$		Pollux.
		36 22 $\frac{1}{2}$	37 6 $\frac{1}{2}$			\odot 's 1st Limb.
		59 23 $\frac{1}{2}$	7 0 14	1 5		\odot 's 2d Limb.
		6 49	7 7 32	8 15 $\frac{1}{2}$		Castor.
	9 56	10 43 $\frac{1}{2}$	7 11 32	12 21 $\frac{1}{2}$	13 8 $\frac{1}{2}$	Procyon.
— 22.	42 39		19 44 9 $\frac{1}{2}$		45 39	Pollux.
		43 49	19 44 33 $\frac{1}{2}$	45 18		1ma ad α } Capricorni.
		46 26	19 47 10 $\frac{1}{2}$	47 54 $\frac{1}{2}$		2da ad α }
	17 23 $\frac{1}{2}$	18 8 $\frac{1}{2}$	20 18 53 $\frac{1}{2}$	19 39 $\frac{1}{2}$	20 23 $\frac{1}{2}$	Small * following them.
— 23.	39 35 $\frac{1}{2}$	40 18 $\frac{1}{2}$	1 41 2 $\frac{1}{2}$	41 46 $\frac{1}{2}$		γ 's 2d Limb.
		42 29 $\frac{1}{2}$	43 13 $\frac{1}{2}$	43 57 $\frac{1}{2}$	44 40	\odot 's 1st Limb.
	16 7 $\frac{1}{2}$	16 51 $\frac{1}{2}$	21 17 36 $\frac{1}{2}$	18 20 $\frac{1}{2}$	19 5 $\frac{1}{2}$	\odot 's 2d Limb.
— 24.	42 40	43 23	1 44 6 $\frac{1}{2}$	44 50 $\frac{1}{2}$		γ 's 2d Limb.
		45 33 $\frac{1}{2}$	46 17 $\frac{1}{2}$	47 1 $\frac{1}{2}$	47 44 $\frac{1}{2}$	\odot 's 1st Limb.
— 25.	45 44 $\frac{1}{2}$	46 27:	1 47 10 $\frac{1}{2}$	47 55 $\frac{1}{2}$		\odot 's 2d Limb.
		48 38	49 22 $\frac{1}{2}$	50 6 $\frac{1}{2}$		\odot 's 1st Limb.
						\odot 's 2d Limb.

† This Star, as far as I can find, is not in any catalogue: it may be about the sixth magnitude, and its zenith distance at the Cape, as shewn by the index of the transit instrument, was 33°.30', or thereabouts; consequently its declination will be about 0° 26' S. and its right ascension 17 h. 29' 21 $\frac{1}{2}$."

Observations at the Cape of Good Hope, Continued

Observations of Meridian Altitudes of the Sun and Stars

1775	Zenith Distances				Exterior Arch reduced	Barom	Thermom		Phenomena and Remarks
	Interior Arch	"	Exterior Arch				L. D. 50	O. F.	
			G S V	+ "					
April 7	41 2 4		43 3 3	15	41 2 30	29,98	76	75	☉ & L L
— 9	41 14 45		44 0 0	17	41 15 17	30,01	72½	75½	☉ U L
— 11	17 30 0		18 2 21	16	17 30 7	29,87	70½	65½	Synius
	66 15 0		70 2 22	6	66 15 23½	29,87	70	65	Antor
	39 41 55		42 1 12	20	39 42 10	29,87	70	65	Procyon
— 12	42 52 53		45 2 31	20	42 53 20	30,02	68½	69	☉ & U I
	19 58 5		21 1 6	0	19 57 57	30,04	69	63½	☉ Navis
	34 52 12		37 0 25	16	34 52 30	30,04	69	63½	β — { Cloudy
— 13	42 43 15		45 2 9	20	42 43 40	30,02	68½	68½	☉ & U L
	43 15 27		46 0 18	22	43 15 46½			68½	☉ & L
	17 30 12		18 2 22	5	17 30 22½	29,98	69½	66	Synius
	39 42 5		42 1 13	4	39 42 20½	29,97	69	64½	Procyon
	62 26 53		66 2 15	1½	62 27 27	29,97	69	64	Pollux
	5 27 10		5 3 10	8	5 27 58				☉ Navis
	12 45 20		13 2 14	0	12 45 31½				☉
	19 57 45		21 1 6	10	19 58 7	29,97	69	63	☉
	34 51 20		37 0 23	17	34 51 38½				β
	24 34 22		26 0 27	16	24 34 38				☉
— 14	39 42 8		42 1 13	13	39 42 29½				Procyon
	62 27 15		66 2 15	8	62 27 21	30,01	67½	64	Pollux
	5 27 52		5 3 11	10	5 28 26				☉ Navis
	12 45 7		13 2 15	5	12 46 03				☉
	19 58 5		21 1 7	10	19 58 33	30,0	67	63	☉
— 15	34 51 50		37 0 23	20	34 51 41½				β
	39 42 0		42 1 12	18	39 42 08				Procyon
	62 26 57		66 2 15	23	62 27 36	29,99	68½	64	Pollux
	34 52 0		37 0 25	8	34 52 22	29,97	68½	63½	β Navis
— 16	44 19 55		47 1 5	5	44 20 0½	30,0	67½	69½	☉ & L L
	5 27 37		5 3 11	6	5 28 22	29,94	68	64	☉ Navis
— 17	5 26 50		5 3 9	0	5 27 23½	30,0	67½	61½	☉ Navis
	12 45 8		13 2 14	10	12 45 41½	30,0	67½	61½	☉
	19 57 50		21 1 6	6	19 58 3	30,0	67½	61½	☉
	34 51 37		37 0 23	10	34 51 31½	30,01	68	61½	β
	24 34 38		26 0 27	22	24 34 44	30,01	67	61	☉
— 18	39 42 7		42 1 13	8	39 42 24½				Procyon
	5 26 30		5 3 9	10	5 27 33½	30,18	66	63	☉ Navis
	12 45 4		13 2 14	0	12 45 31½				☉
	19 58 0		21 1 7	8	19 58 31				☉
— 19	34 51 5		37 0 23	7	34 51 28½	30,18	66	62½	β
	40 22 15		48 1 19	8	45 22 32½				☉ & L L
	44 49 37		47 3 9	15	44 50 08½	30,18	67	70	☉ & U L
	34 52 0		37 0 25	5	34 52 19				β Navis
	24 34 15		26 0 27	22	24 34 44	30,0	69	69	☉ Navis

Observations at the Cape of Good Hope, Continued.

Observations for the Error of the Line of Collimation, made with the Board as formerly.

	Zenith distance of the upper hole: the quadrant direct.			Zenith distance of the lower hole: the quadrant inverted.		
	Interior Arch.		Exterior Arch.	Interior Arch.		Exterior Arch.
	°	'		°	'	
Means.	87	49	22	93	2	22
		7			22	
		20			22	
		0			22	
		20			22	
		5			22	
	87	49	14 $\frac{1}{2}$	93	2	22
	87	49	0	93	2	22
		10			23	
		0			23	
Means.		12			23	
		0			22	
		0			22	
	87	49	3 $\frac{1}{2}$	93	2	22
	87	48	52	93	2	22
		49	30		23	
		48	45		22	
		48	50		22	
	87	48	59 $\frac{1}{2}$	93	2	22

The Quadrant was inverted between every set, as the means are here taken, and of course the Observations give nine comparisons for each arch of the Quadrant; the mean result of which gives 1".8 to be added to the interior arch, and 8". $\frac{1}{2}$ to be subtracted from the exterior arch.

Observations at the Cape of Good Hope, Continued

Computations of the Latitude, from the foregoing Observations

1775	Latitude by		Declination	1775	Latitude by		Declination
	Interior Arch	Exterior Arch			Interior Arch	Exterior Arch	
By Observations of the Sun				By Observations of Syrius			
♀ April 7	33 55 48½	33 56 5	6 50 58 N	♂ April 11	33 55 57½	33 55 54½	} 16 25 18½
♀ — 9	33 55 43½	33 56 5	7 35 46	♂ — 13	33 56 9½	33 56 10	
♀ — 12	33 55 45½	33 55 58	8 42 0		33 56 3½	33 56 2½	Mean
♂ — 13	33 56 21	33 56 33	9 3 47	By an Observation of Cassio			
♂ — 16	33 56 3	33 56 31	10 8 15	♂ April 11	33 55 38	33 55 51½	32 21 11 N
♂ — 19	33 55 34½	33 55 49½	11 11 12½	By Observations of β Navis			
	33 55 53½	33 56 10½	Means	♀ — 12	33 55 11½	33 55 1½	} 68 47 41 S
By Observations of Procyon				♂ — 13	33 56 2	33 55 53½	
♂ April 11	33 55 39	33 55 44	} 5 57 16 N	♀ — 14	33 55 31½	33 55 50½	
♂ — 13	33 55 49	33 55 54½		♂ — 15	33 55 22	31 55 10	
♀ — 14	33 55 52	33 56 3½		♂ — 17	33 55 45	33 56 0½	
♀ — 15	33 55 44	33 55 42		♂ — 18	33 56 17	33 56 0½	
♂ — 18	33 55 51	33 55 58½		♂ — 19	33 55 22½	33 55 13½	
	33 55 47	33 55 52½	Means	33 55 38½ 33 55 36½ Mean			
By Observations of Pollux				By Observations of α Navis			
♂ April 13	33 55 45½	33 56 8½	} 28 33 01 N	♂ April 13	33 55 58	33 55 52½	} 58 30 12½
♀ — 14	33 56 0½	33 56 2½		♂ — 17	33 55 42½	33 55 46½	
♀ — 15	33 55 48½	33 56 17½		♂ — 19	33 56 5½	33 55 46½	
	33 55 53½	33 56 9½	Means	α Navis			
By Observations of ζ Navis				β —	33 55 55½	33 55 48½	Mean
♂ April 13	33 55 48½	33 55 10½	} 39 2 43 S	β —	33 55 38½	33 55 36½	Ditto
♀ — 14	33 55 6½	33 54 42½		γ —	33 55 28½	33 55 21½	Ditto
♀ — 16	33 55 21½	33 54 46½		γ —	33 55 51½	33 55 29½	Ditto
♂ — 17	33 56 10½	33 55 35		ζ —	33 55 43	33 55 10	Ditto
♂ — 18	33 56 8½	33 55 35½			33 55 43½	33 55 29	Mean
	33 55 43	33 55 10	Means	The Sun			
By Observations of γ Navis				Syrus	33 55 53½	33 56 10½	Mean
♂ April 13	33 55 41½	33 55 39½	} 46 40 51 88.	Cassio	33 56 3½	33 56 2½	Ditto
♀ — 14	33 55 54½	33 55 8½		Procyon	33 55 38	33 55 51½	Ditto
♂ — 17	33 55 53½	33 55 29½		Pollux.	33 55 47	33 55 52½	Ditto
♂ — 18	33 55 57½	33 55 39½			33 55 53½	33 56 9½	Ditto
	33 55 51½	33 55 29½	Mean	Northern * *			
By Observations of δ Navis				Southern ditto	33 55 51	33 55 1½	Mean
♂ April 12	33 55 20½	33 55 38½	} 53 53 24½ S		33 55 43½	33 55 29	Ditto
♀ — 13	33 55 40½	33 55 28½			33 55 47½	33 55 45½	Mean
♀ — 14	33 55 20½	33 55 2½			33 55 45½	33 55 45½	Exterior Arch
♂ — 17	33 55 35½	33 55 32½			33 55 46½	S Latitude	
♂ — 18	33 55 25½	33 55 4			33 55 42½	Messrs. Mason and Dixon	
	33 55 28½	33 55 21½	Mean		33 55 29½	Abbe de la Caille.	
					33 55 30	Mr. Bayley	

Observations at the Cape of Good Hope, Continued.

Computations of the Clock's Rate of going.

1775.	Time of apparent Noon by the Clock.	Syderial Time of apparent Noon.	Difference.	Clock loses.
	H	H		
March 24.	21 33 15.73	0 13 18.71	160 2.98	
" 25.	21 30 12.22	0 16 56.71	160 44.49	41.51
" 26.	21 39 7.05	0 20 35.43	161 27.48	42.99
" 27.	0 22 28.60	0 24 13.24	1 44.64	
" 28.	0 25 24.71	0 27 51.13	2 26.42	41.78
" 29.	0 28 19.36	0 31 28.13	3 8.77	42.35
" 30.	0 31 14.19	0 35 07.13	3 52.97	44.20
" 31.	0 34 10.68	0 38 45.22	4 34.54	41.57
April 1.	0 37 05.75	0 42 23.32	5 17.57	43.03
" 2.	0 40 0.27	0 46 01.61	6 01.34	43.77
" 3.	0 42 46.31	0 49 55.19	7 10.88	43.18
" 4.	0 45 40.50	0 53 06.08	8 55.58	44.70
" 5.	0 48 37.38	0 56 15.08	9 37.70	42.12
" 6.	0 51 33.08	0 59 33.66	10 01.58	41.94
" 7.	0 54 29.16	1 02 44.18	11 44.18	42.60
" 8.	0 57 29.73	1 05 54.28	13 44.28	40.3
" 9.	0 59 29.49	1 08 56.38	15 06.38	41.05
Clock stopped.				
" 17.	1 23 54.40	1 40 59.34	17 4.94	
" 18.	1 26 54.81	1 44 41.51	17 46.67	41.73
" 19.	1 29 58.52	1 48 24.19	18 25.67	39.0
" 20.	1 32 59.05	1 52 7.26	19 8.21	42.54
" 23.	1 42 6.37	2 3 19.29	21 12.92	41.57

Comparisons of the Transit Instrument with equal Altitudes.

1775.	Noon by equal Altitudes.	The \odot passed the Transit Instrument.	Difference.	Error of the Instrument.
	H	H		
March 26.	21 39 07.95	21 35 52.44	3 15.51	82 50
Altered the Instrument.				
" 27.	0 22 28.60	0 22 38.91	0 10.31	4 20
Altered the Instrument.				
" 28.	0 25 21.71	0 25 30.41	0 5.70	2 22
" 29.	0 28 19.36	0 28 24.94	0 5.58	2 18
" 30.	0 31 14.16	0 31 19.66	0 5.50	2 17
Moved the Instrument.				
" 31.	0 34 10.68	0 34 12.55	0 1.87	0 45
April 1.	0 37 5.75	0 37 8.25	0 2.50	1 0
" 2.	0 40 0.27	0 40 2.53	0 2.26	0 54
" 3.	0 42 46.31	0 42 49.0	0 2.69	1 2
" 4.	0 45 40.50	0 45 44.06	0 3.56	1 21
Moved the Instrument.				
" 7.	0 54 37.38	0 54 38.38	0 1.0	0 23
" 9.	1 0 32.08	1 0 33.47	0 1.39	0 31
" 10.	1 3 29.16	1 3 30.78	0 1.62	0 36
" 13.	1 12 29.72	1 12 29.83	0 0.11	0 3
" 15.	1 18 29.49	1 18 31.04	0 1.55	0 33
" 17.	1 23 54.40	1 23 54.79	0 0.39	0 8
" 19.	1 29 58.52	1 29 59.08	0 0.56	0 12
" 20.	1 32 59.05	1 32 59.29	0 0.24	0 5
" 23.	1 42 6.37	1 42 7.91	0 1.57	0 31

The difference between the rates of the Clock's going now, and when here in November 1772, is very extraordinary; but cannot, I think, be imputed to any absolute alteration in the length of the pendulum, as it had never been altered, in any respect, after the Clock was set up at Dusky Bay; and although before that time it was always altered, in order to its being packed up, yet on setting it up again, it was constantly brought back to its proper length, by means of a scratch on the rod, and the numbers on the nut. But, notwithstanding, I think it highly probable that the cause does not lie there, I am utterly unable to assign any other satisfactory one; and the most likely hint I am able to give, after the closest examination, is, that all the time the Clock was now going here, the principal play, or bending of the pendulum spring was down quite at the lower part of it: whether or no it had always been so, or that the principal yielding of the spring had formerly been in some part higher up, which was now grown stiff with rust, I must confess I cannot tell, as a thought of this kind did not occur to me before. It is worthy observation, that the Clock went somewhat faster the second time it was at Otaheite, than it did the first, and the difference was yet greater at Queen Charlotte's Sound.

Observations at the Cape of Good Hope, Continued

Computations of the Rate which Mr Kendall's Watch went at

1775		Time of ap parent Noon by the Clock	Time by Clock when the Watch was com pared	Time from Noon by the Clock	Time from Noon by the Watch	Time by the Watch when compared	Time of ap parent Noon by the Watch	Mean Time of apparent Noon	The Watch too slow for mean Time	Day
		H	H			H	H	H	H	
7	March 24	21 33 15 73	21 57 0	23 44 27	2 09	23 41 28	23 15 51	22 52 10 47	24 6 26 05	13 3
h	25	21 36 12 22	21 14 41	22 7 97	2 77	22 5 20	22 30 0	22 52 5 20	24 6 7 45	13 6
Q	26	21 39 7 95	21 45 81	6 0 55	0 76	5 59 79	22 58 0	22 52 00 21	24 5 48 85	13 9
b	27	0 23 28 60	0 40 35	18 6 40	2 27	18 04 13	23 10 0	22 51 55 87	24 5 30 14	14 3
d	28	0 25 24 71	0 32 36	7 11 20	0 91	7 10 38	23 59 0	2 51 48 62	24 5 11 55	14 6
f	29	0 28 19 36	0 38 36	10 16 89	1 17	10 15 72	23 2	22 51 44 28	24 4 52 95	14 9
u	30	0 31 14 16	0 37 35	6 21 34	0 97	6 20 37	22 58 0	22 51 39 63	24 4 34 44	14 12
r	31	0 34 10 68	0 43 35	9 24 32	1 17	9 23 15	23 1 0	22 51 36 85	24 4 16 04	14 15
April 1		0 37 5 75	1 16 41	39 35 25	0 00	39 30 25	23 31 0	22 51 29 75	24 3 57 73	15 6
Q	2	0 40 0 27	0 45 36	5 30 48	0 70	5 35 78	22 57 0	22 51 24 22	24 3 39 43	15 9
b	3	0 42 55 0	0 47 36	4 41 0	0 59	4 40 41	22 56 0	22 51 19 59	24 3 21 32	15 12
d	4	0 45 50 65	0 56 37	10 17 03	1 34	10 15 68	23 1 0	22 51 11 32	24 3 3 41	15 15
f	5	0 48 46 31	1 14 38	25 51 94	3 22	5 49 72	23 17 0	22 51 11 28	24 2 45 61	15 18
u	6	0 51 40 50	0 14 30	37 10 25	4 63	37 5 62	23 14 0	2 51 5 62	24 2 27 90	15 21
r	7	0 54 37 38	1 1 36	6 59 12	0 86	6 58 26	22 58 0	23 51 1 74	24 2 10 39	15 24
Q	8	1 0 32 08	1 7 37	7 5 04	0 89	7 4 15	22 58 0	22 50 55 85	24 1 35 97	15 27
b	9	1 3 29 16	1 11 38	8 9 09	1 02	8 8 07	22 59 0	22 50 51 93	24 1 19 12	15 30
d	10	1 9 28 65	1 16 42	7 14 02	0 92	7 13 10	22 58 0	22 50 46 90	24 1 0 27 19	15 33
f	11	1 12 29 72	1 19 46	7 16 95	0 93	7 16 03	22 58 0	23 50 43 98	24 0 46 23	15 36
u	12	1 15 28 97	1 6 48	8 40 97	1 10	8 39 87	22 42 0	23 50 39 8	24 0 30 2	15 39
r	13	1 18 29 49	1 24 54	6 25 01	0 81	6 24 20	22 57 0	22 50 35 80	23 59 59 18	15 42
Q	14	1 0 5 70	1 27 19	6 26 80	0 81	6 25 99	22 57 0	22 50 34 01	23 59 44 17	15 45
b	15	1 23 54 40	1 26 24	32 30 35	4 10	32 26 25	23 23 0	22 50 33 75	23 59 29 51	15 48
d	16	1 26 54 84	1 35 21	8 30 41	1 09	8 29 32	22 59 0	22 50 30 68	23 59 15 24	15 51
f	17	1 29 58 52	1 35 28	5 30 15	0 70	5 29 45	22 56 0	22 50 30 55	23 59 1 40	15 54
u	18	1 32 59 5	1 43 31	10 31 95	1 33	10 30 62	23 1 0	22 50 29 38	23 58 48 0	15 57
r	19	1 36 0 55	1 54 0	17 59 50	2 28	17 57 22	23 8 28 5	22 50 30 28	23 58 35 05	16 0
Q	20	1 42 6 37	1 50 35	8 29 13	1 07	8 28 06	22 59 0	22 50 31 94	23 58 10 42	16 3

The mean of all the above gains is 13,172, the first and last days Observations give 13,236, and the mean of the two is 13 204, the gain of the watch on mean time in twenty four hours

Observations at the Cape of Good Hope, Continued.

Observations for the Dip of the Magnetic Needle.

1775.	Face of the Instrument.		Face of the Instrument.	
	East.	West.	East.	West.
	°	°	°	°
	46 55	45 35	43 45	46 50
	45 40	45 0	46 30	43 45
	46 30	43 30	48 15	48 45
			45 45	42 45
	Changed the Poles.		Changed the Poles.	
	43 0	46 55	47 40	44 25
	42 30	48 15	46 30	45 45
	42 30	48 50	48 35	47 45
	44 30	47 45	46 35	47 45
	47 0	45 45	45 25	43 35
	42 30	45 50	45 55	42 45
	Altered the Balance.		45 0	47 10
			Changed the Poles.	
	43 35	48 30	43 45	44 15
	46 0	47 15	44 15	47 0
	43 0	45 35	46 30	47 0
	Altered the Balance.		43 15	49 0
			45 45	43 30
	45 5	45 30	47 35	43 10
	46 35	45 55	42 45	44 30
	47 15	47 45	43 05	44 30
	46 40	46 20	42 45	43 15
	Changed the Poles.		Changed the Poles.	
	45 15	45 20	43 35	42 55
	46 35	43 30	43 40	43 25
	47 0	42 40	42 40	42 25
	46 15	45 0	44 35	42 05
	The mean of all gives the dip of the Needle's S. end. } 45 18 $\frac{1}{4}$			

Observations for the Variation of the Compass.

1775.	Variation.	Variation.	Variation.
	°	°	°
April 23.	21 10 W.	21 15 W.	21 55 W.
	21 25	21 30	21 0
	21 25	21 10	21 30
	21 10	21 15	20 50
	21 0	21 25	21 20
	20 55	21 0	21 10
	21 5	21 15	21 45
	21 15	21 10	20 40
	21 15	21 15	21 15
	21 10	21 10	21 25
	21 20	21 35	21 15
	21 35	21 0	21 10
	20 50	21 15	21 15
	21 40	21 15	21 15
	21 20	21 30	21 5
	21 25	20 50	21 15
	21 0	21 0	21 20
	21 10	21 5	21 10
	21 10	21 25	21 25
	21 10	21 0	21 15

The first two columns were obtained by placing the Compass at the Transit Instrument, and making the index bisect the meridian mark; the last was got by placing the Compass at the mark, and setting the index to cut the Transit Telescope. The mean of them all is 21° 14 $\frac{1}{4}$ W.

Observations made at the Cape of Good Hope, Continued

As there have been some disputes concerning the relative situation of the place where the late *Abbe de la Caille* made his Observations, with respect to that where Messrs Milon and Dixon, as well as Mr Bayley and myself observed and, moreover, as it may also contribute some thing towards the business I was employed on at the Cape of Good Hope to determine with accuracy, the difference of latitude and meridians between their places, the following account of a survey, made for that purpose, will not, I presume be unacceptable.

In the annexed Figure, (see Plate I Fig 1) C is the place of the *Abbe's* Observatory and O that of ours; S N is the meridian line passing through the latter and S a point on it, 8,84 chains to the southward of the Observatory. The lines S G G I I A, and A C, which are in the directions of the several streets were carefully measured, as also the angles at S G E and A. The line S G was found to be 12,26 chains (of Gunter), G L is 7 50 chains I A 34 chains, and A C 5,64 chains. I found the inclination of the plane whereon the line O S was measured $1^{\circ} 25'$, of that whereon S G was measured $2^{\circ} 05'$ that on which G L was measured did not differ sensibly from the horizontal level. E A declined $1^{\circ} 59'$ from the plane of the horizon, and A C was nearly horizontal. I have not made any allowance for these elevations in the computation, whereby the following results were deduced. I think them so small as not to merit notice, but have put down the inclinations themselves, for the satisfaction of such persons as may think otherwise. The angle at S measured $14^{\circ} 48' 7\frac{1}{2}''$, that at C $11^{\circ} 54'$, that at E $85^{\circ} 41' 15''$, and that at A $106^{\circ} 38' 5''$. The quadrant showed angles too small by 18, as I found by Observations made for that purpose. Hence it will readily be seen that one side and all the angles are given in each triangle from whence I found that O N the difference of latitude, was equal to 37 69 chains or 0,409 of a mile $= 24\frac{1}{2}'$ and that I I B = N C the meridian distance was 16,86 chains, or, 183 of a mile $= 13''\frac{1}{2}$ in longitude; the *Abbe's* Observatory being these quantities to the northward and eastward of ours.

The Mountain at this place, usually known by the name of the *Table Mountain* from its flat top, being one of the highest and most remarkable in the known world so near the sea; I thought the knowledge of its height might prove a matter acceptable to many and perhaps be of some use in physical enquiries. These considerations induced me to make the following Observations which though not on so large a base as might be wished, will nevertheless, I hope, be sufficient for the purpose. The base having been measured twice over, with the utmost care, on a tolerably even plane, and the two measurements differed only nine links of Gunter's chain from each other; the whole length of the base line was 50 chains, or 3300 English feet, and lay in a direct line from that part of the hill which I observed the altitude of.

Being thus pretty well assured of the length of my base, I placed the astronomical quadrant at the lower end of it, set the Telescope very nicely to go, allowing the error of the Quadrant and turned it round until the middle horizontal wire cut the main topmast of the Resolution as she lay at anchor in the bay and when I had adjusted the plumb-line very accurately I found that the middle wire of the Telescope cut the main topmast about $\frac{1}{4}$ th or $\frac{1}{3}$ d of the way up between the cap of the main mast and the trussel trees of the main topmast.

Observations at the Cape of Good Hope, Continued.

I next took the following zenith distances of a mark at the upper end of the base-line, which was exactly of the same height from the ground with the center of the Quadrant, viz.,

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+"
87	35	55	93	1	24	16
	36	52			26	8
	35	50			24	12
	36	5			25	10

With the Quadrant yet standing at the same place, I took the following zenith distances of the highest part of the Table Mountain: I mean that part which forms the right-hand cliff of the passage, whereby the mountain is usually ascended.

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+"
74	24	37	79	1	16	5
	24	45			16	7
	24	15			15	10

I now removed the Quadrant to the upper end of the base-line, and there took the following zenith distances of the same point of the mountain.

Interior Arch.			Exterior Arch.			
°	'	"	G.	S.	V.	+"
71	5	50	75	3	11	18
	5	30			11	10

Clouds now covered the hill, so that I could get no more of these last. The Barometer stood at 29.98, and the Thermometer at 64. It is necessary to add, that the length of the Resolution's main-mast was 70 feet 11 inches, of her main-topmast 42 feet 5 inches: 11 feet and 6 inches of the main-mast was lost in the water, the top-mast overlapped at the heel 9 feet and 10 inches, and the trussel-trees were $4\frac{1}{2}$ feet below its cap. Hence the cap of the main-mast was 59 feet and 5 inches above the surface of the sea, and the main-topmast trussel-tree $27\frac{1}{2}$ feet above that, one fourth, or one third of which may be taken at 8 feet, and then the lower end of the base will appear to be $67\frac{1}{2}$ feet, or $22\frac{1}{2}$ yards above the surface of the sea, allowing nothing for the horizontal refractions, or the curvature of the earth on the distance, which was about a mile and quarter.

If then, in Fig. 2, Plate II, A E represent an horizontal line drawn through A, the lower station; B D another drawn through the upper station, B; A B the line measure, = 3300 feet, or 1100 yards, and C D the perpendicular height of the mountain above the horizontal line B D, by taking a mean of the zenith distances shewn by the two arches of the Quadrant, and

Observations at the Cape of Good Hope, Continued

allowing the mean astronomical refractions thereon, which may, perhaps, be a small matter more than ought to be done, B F, the perpendicular height of the second station, above the first, will come out $40\frac{1}{2}$ yards; and D C, the perpendicular height of the summit of the mountain, above the second station, $1432\frac{1}{2}$ yards; and of course the height of the mountain's summit, above the lower station, is 1463 yards; to which adding $22\frac{1}{2}$ yards the height of the lower station above the sea, the whole height of the mountain will be $1485\frac{1}{2}$ yards.

If no refractions whatever be allowed, B F will be 46 yards, and C D 1407 yards; and the whole height of the mountain $1475\frac{1}{2}$ yards above the level of the sea.

As B C, the distance of the upper station from the top of the mountain, comes out only $4400\frac{1}{2}$ yards in one case, and $4342\frac{1}{2}$ yards in the other; the whole distance of the top of the mountain from the sea-shore cannot exceed four miles, as my first station was not quite three fourths of a mile from it.

Observations at the Island of St. Helena, Latitude $15^{\circ} 55'$, S. Longitude $5^{\circ} 49'$, W.

Observations for the Dip of the Magnetic Needle.

1775.	Face of the In- strument.		1775.	Face of the In- strument.		1775.	Face of the In- strument.		
	East.	West.		East.	West.		East.	West.	
	0	0		0	0		0	0	
2 May 19.	14 10	14 25	2 May 19.	14 15	14 40	Mean of all the means Dip of the Needle's south end	Changed the Poles.		
	14 35	14 5		14 0	13 30		10 45	8 30	
	14 50	14 10		14 0	14 0		9 0	9 50	
Mean	14 31 $\frac{1}{2}$	14 13 $\frac{1}{2}$	Mean	13 44 $\frac{1}{2}$	13 22 $\frac{1}{2}$		9 5	8 35	
	Changed the Poles.			Changed the Poles and altered the Balance.			8 45	8 45	
	9 50	8 45					8 55	8 45	
	10 0	8 45	May 20.	12 30	11 40		8 50	8 45	
Mean	9 55	8 45		12 40	11 30		Mean	9 13 $\frac{1}{2}$	8 52
	Altered the Balance.			13 5	13 0				
	11 05	10 45		13 15	13 30			11 29 $\frac{1}{2}$	11 20 $\frac{3}{4}$
	9 30	10 45		13 0	13 45			11 25 $\frac{1}{2}$	
Mean	10 17 $\frac{1}{2}$	10 45		13 15	12 35				
	Changed the Poles.			13 0	13 05				
	13 55	12 5		12 30	12 35				
	13 10	13 40		13 15	12 30				
	13 5	12 20	Mean	13 10	12 25				
				12 58	12 27 $\frac{1}{2}$				

Other Observations.

1775.	Time by the Watch K.	Apparent Time.	Double Altitude of the O's L.L.	Error of the Quadrant.	Therm.	Latitude.	Longitude by the Watch.	
	11	H	0			0	0	
21 May 18.		Noon.	108 31	-1 7 $\frac{1}{2}$	75 $\frac{1}{2}$	15 55 16		
2 — 19.	22 18 5 $\frac{1}{2}$		82 26					
	18 45		82 38					
	19 14	21 48 18, 1	82 47 $\frac{1}{2}$	-0 30	76 $\frac{1}{2}$		5 47 22 $\frac{1}{2}$	West.
	19 40 $\frac{1}{2}$		82 56 $\frac{1}{2}$					
	20 5		83 3 $\frac{1}{2}$					
	20 34		83 13 $\frac{1}{2}$					
5 — 20.		Noon	107 38 $\frac{1}{2}$	-0 42	76	15 55 28		

Observations at the Island of Ascension, Latitude $7^{\circ} 56' \frac{1}{4}''$ S Longitude $14^{\circ} 32' \frac{1}{2}''$ W

Observations for the Dip of the Magnetic Needle

1775	Face of the Instru ment		1775	Face of the Instru ment	
	East	West		East	West
	o ~	o		o ~	o
» May 29	9 40	8 0	» May 29	9 15	10 0
	9 15	8 30		9 15	9 15
	9 10	8 25		9 10	9 0
	8 45	8 30		9 0	9 30
	9 30	8 30		9 0	9 10
	9 20	8 40		9 05	8 30
Mean	9 16 $\frac{1}{2}$	8 25 $\frac{3}{8}$	Mean	9 10	8 15
	Changed the Poles			9 7 $\frac{1}{2}$	9 10
»	10 15	10 0	3d ditto	9 13	8 28
	9 40	7 10		9 28 $\frac{1}{2}$	8 26 $\frac{1}{2}$
	8 30	8 15		9 16 $\frac{1}{2}$	8 25 $\frac{1}{2}$
	Mean			Mean of all the means	
	9 28 $\frac{1}{2}$	8 28 $\frac{1}{2}$	9 16 $\frac{1}{2}$	8 38 $\frac{1}{4}$	
	Changed the Poles		Dip of the Needle's North End		9 16 $\frac{1}{2}$
»	8 5	9 25			8 57 $\frac{1}{4}$
	10 45	8 0			
	10 5	8 40			
	8 40	7 45			
	8 30	8 30			
	9 13	8 28			

Mr Kendall's watch gave the longitude of the ship at anchor $14^{\circ} 31' 49''$ W I got no lunar Observations for the longitude while here; but three taken before our arrival, and reduced to this place by means of the watch, gave $14^{\circ} 58' 11''$, and twelve taken after leaving it, six of which were of the sun and moon, and six of the moon and stars, on the other side of her, gave, when reduced back by the watch, $14^{\circ} 6' 50''$ The mean of the two is $14^{\circ} 32' 30''$ W The latitude of the ship, as she lay at anchor, was $7^{\circ} 55' 53''$ S, by a mean of three Observations; and the variation of the Compass was $10^{\circ} 52' \frac{1}{2}''$ W

N B The highest part of the island bore W by N $\frac{1}{4}$ N by Compass, about four leagues distant.

Observations made at the Island of Fyal, one of the Azores.

1775.	Equal Altitudes. Times by the Watch K.			Zenith Dis- tance.	Supple- ment to the double Altitude of the ☉'s L. L.	Thermometer.	Time of apparent Noon by the Watch.	Phenomena, &c.
	Lower Wire.	Middle Wire.	Upper Wire.					
24 July 13.	28 43 $\frac{1}{2}$	0 31 15 $\frac{1}{2}$	33 44	29 20 0				☉'s U. L. } Easter- ☉'s L. L. } ly.
25 — 14.	31 47 $\frac{1}{2}$	34 19	36 47 $\frac{1}{2}$				2 25 02,63	☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly. Latit. 38° 32' 49" N.
	18 12 $\frac{1}{2}$	4 15 42 $\frac{1}{2}$	13 15	29 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	21 12 $\frac{1}{2}$	18 43 $\frac{1}{2}$	16 16 $\frac{1}{2}$	35 40 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
5 — 15.		23 57 13 $\frac{1}{2}$	59 32 $\frac{1}{2}$		34 31 47	76 $\frac{1}{2}$	2 25 24,23	Latit. 38° 32' 49" N. ☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
		4 53 28	51 8 $\frac{1}{2}$	35 40 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	5 40 $\frac{1}{2}$	0 5 10 $\frac{1}{2}$		34 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
☉ — 16.	45 35 $\frac{1}{2}$				34 48 54	76 $\frac{1}{2}$	2 25 41,17	Latit. 38° 31' 43" N. ☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
		4 46 05		34 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
			20 41 $\frac{1}{2}$	55 0 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
22 — 17.		22 21 11 $\frac{1}{2}$			35 9 48	76 $\frac{1}{2}$	2 26 02,04	Latit. 38° 32' 7" N. ☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
		6 30 42 $\frac{1}{2}$		55 0 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
			31 13	62 0 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
		21 —	45 36 $\frac{1}{2}$					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
			48 18 $\frac{1}{2}$					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	15 18 $\frac{1}{2}$	22 17 34	19 46 $\frac{1}{2}$	55 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	18 2 $\frac{1}{2}$	20 15 $\frac{1}{2}$						☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	54 34 $\frac{1}{2}$	21 56 51 $\frac{1}{2}$	59 06 $\frac{1}{2}$	47 40 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	57 20 $\frac{1}{2}$	59 36 $\frac{1}{2}$	1 49 $\frac{1}{2}$					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	4 34 $\frac{1}{2}$	0 6 57 $\frac{1}{2}$	9 16 $\frac{1}{2}$	34 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
7 — 18.	7 26 $\frac{1}{2}$	9 50	12 13		35 30 45	77 $\frac{1}{2}$	2 26 19,80	Latit. 38° 32' 42" N. ☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	45 6	4 42 42 $\frac{1}{2}$	40 18 $\frac{1}{2}$	34 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	48 1 $\frac{1}{2}$	45 36 $\frac{1}{2}$	43 14					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	55 8 $\frac{1}{2}$	5 —	50 40 $\frac{1}{2}$	47 40 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	57 54 $\frac{1}{2}$		53 25 $\frac{1}{2}$					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	34 26 $\frac{1}{2}$	6 32 14 $\frac{1}{2}$	30 01 $\frac{1}{2}$	55 20 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
	37 10	34 55 $\frac{1}{2}$	32 44 $\frac{1}{2}$					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
		7 —	4 8 $\frac{1}{2}$	62 0 0				☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.
			6 53					☉'s L. L. } Wef- ☉'s U. L. } terly. ☉'s U. L. } Easter- ☉'s L. L. } ly.

Observations at Fyal, Continued

Computations of the Watch's Rate of going

1775	Time of Noon by the Watch		Mean Time of apparent Noon		Watch faster than mean Time		Watch gains on M Time
	H	M	H	M	H	M	
♀ July 14	2	25	2	03	2	19	11
♂ — 15	2	25	2	23	2	19	11
♂ — 16	2	25	2	17	2	19	11
♂ — 17	2	26	2	04	2	19	11
♂ — 18	2	26	2	19	2	19	11

The mean of these four is 13 66; but if a mean of all the comparisons which can be formed out of the five Observations be taken the gain on mean time will be 13 528. The longitude shown by the watch is 28° 56' 20" W or 47 19 35 west of the Cape of Good Hope. I had no lunar Observations here for the longitude; but a mean of 15 taken before we arrived here gave 28 1 44 $\frac{1}{2}$ when brought on by the watch; and eight taken after leaving it and carried back by the watch gave 28° 46' 42 $\frac{1}{2}$. The mean of the two is 28 24 13 $\frac{1}{2}$ west.

Observations for the Variation of the Compass

1775	Zenith Distance of the Sun	Azimuth of the Sun's Center	Variation W or E
♂ July 17	62 28 $\frac{1}{2}$ U L	N 62 15 W	21 5/3
	43 $\frac{1}{2}$	61 45	
	54	61 25	
	63 1 $\frac{1}{2}$	61 20	
	19 $\frac{1}{2}$	61 0	2 104
	31 $\frac{1}{2}$	60 35	
♂ — 18	56 51 L L	N 66 45 W	
	57 1 $\frac{1}{2}$	64 15	
	57 13 $\frac{1}{2}$	66 55	1 44 2
	57 24 $\frac{1}{2}$	65 0	
	59 11	N 65 55 W	
	59 21 $\frac{1}{2}$	61 5	
	59 36 $\frac{1}{2}$	65 15	22 7 $\frac{1}{2}$
	59 46 $\frac{1}{2}$	61 50	
		Mean	

Observations for the Dip of the Magnetic Needle

1775	Face of the Instrument		Face of the Instrument	
	East	West	East	West
♂ July 17	70 20	71 0	69 35	72 15
	70 45	72 30	70 30	71 30
	71 30	72 15	70 40	72 0
	70 10	2 0	71 0	70 40
Mean	70 41 $\frac{1}{2}$	71 56 $\frac{1}{2}$	70 35	70 40
	Changed the Poles		70 5	71 0
	72 55	69 30	70 10	72 0
	72 0	69 55	70 22 $\frac{1}{2}$	71 26 $\frac{1}{2}$
	70 20	69 30	Changed the Poles	
	71 45	69 15	71 45	70 45
	72 05	69 25	71 0	70 50
	72 0	71 10	71 30	70 30
Mean	71 50 $\frac{1}{2}$	69 47 $\frac{1}{2}$	71 20	70 40
	Changed the Poles		71 23 $\frac{1}{2}$	70 41 $\frac{1}{2}$
	The mean of all these means is		71 01 $\frac{1}{2}$	
	which is the dip of the needle's north end			

Observations on the Tides

1775	Apparent Time	
♂ July 1	0 7 $\frac{1}{2}$	The water at a mark
	0 24 $\frac{1}{2}$	The water at a second mark
	0 39 $\frac{1}{2}$	It came to a third
	2 49	High water
	4 52 $\frac{1}{2}$	The water returned to the third mark
	5 17 $\frac{1}{2}$	It returned to the second
	5 34 $\frac{1}{2}$	It returned to the first

By one mark the water appeared to flow four feet and one inch and by another only three feet and ten inches. The mean of the two is three feet, 11 inches and a half.

ASTRONOMICAL OBSERVATIONS

F O R

Determining the LATITUDE of the Ship, and her LONGITUDE, by Mr.
ARNOLD's two Watches, No. 1 and 2.

Made on Board his Majesty's Sloop ADVENTURE, in her late Voyage on Discoveries
towards the South.

By Mr. WILLIAM BAYLEY.

It appears, from Page 4, that both N^o. 1 and 2 were set 12" too slow for mean time at Drake's Island, in Plymouth Sound, on July the 10th, in the evening; but Mr. Arnold having forgot to wind up N^o. 2 when he set it a going, it stopped, and was set a going again by Mr. Bayley on the 12th, on which day, when N^o. 1 shewed o. h. 30', it shewed 1 h. 23' 45"; and Mr. Bayley remarks, that this Watch was 53' 45", too fast for mean time at Drake's Island on the 13th at noon.—The several rates of going, mentioned on Page 4, were allowed, until our arrival at the Cape of Good Hope.

1772.	Time by Watch		Altitude of the ☉'s L. I.	Longitude West of Drake's Island.		Latitude of the Ship N.	Thermom.		No. of Obs.
	No. 1.	No. 2.		By No. 1.	By No. 2.		C.	D.	
July 15.	20 1 19 ¹	20 55 30	33 4 ¹	2 25 51	2 21 0	47 43	64	62	3
16.	Noon.		63 35			47 29 ¹	65	64	
	6 3 42 ¹	6 57 59 ¹	17 22 ¹	2 52 3	2 44 9	47 11	65 ¹	62	4
17.	Noon.		64 28			46 26 ¹	66	68	
18.	19 21 50	20 16 7 ¹	25 6	3 38 54	3 25 9	45 35	62 ¹	65	3
	10 32 34		56 36			45 22			2
	11 32 45		63 15 ¹			45 19			3
19.	Noon.		65 14			43 55 ¹	66	64	
20.	Noon.		66 26			43 29 ¹	64	67	
21.	Noon.		66 40			43 26	65	67	
	6 23 55	7 18 7 ¹	13 32	4 19 37 ¹	3 56 25 ¹	43 40	62	65	3
	19 18 41 ¹	20 12 51 ¹	23 15	4 39 13 ¹	4 13 25 ¹	43 37 ¹	61	65	3
22.	Noon.		66 20			42 36	66	66	
	18 44 50 ¹	19 38 58 ¹	16 18 ¹	5 25 52 ¹	4 56 0	42 16 ¹	63	67	3
23.	Noon.		67 29			40 03 ¹	65	68	
24.	Noon.		69 29			39 32	66 ¹	67	
	6 30 51 ¹	7 25 0 ¹	13 16	7 34 30	7 0 24	37 40 ¹	66	67	3
25.	Noon.		71 40			37 13	67	67	
	6 16 59	7 11 10	16 19	8 57 42	8 20 43	35 31 ¹	71	72	3
26.	Noon.		73 34			35 11 ¹			
	6 3 4	6 57 16 ¹	19 27 ¹	10 8 33	9 28 42	33 43	33	72 ¹	3
27.	Noon.		75 9			33 23	71	72	
	6 16 38	7 10 51 ¹	16 57 ¹	10 58 10	10 15 9	33 6	70 ¹	71	3
	20 3 41	20 57 54 ¹	20 35 ¹	11 37 45	10 52 54	32 48	74	74 ¹	3
28.	Noon.		75 50			32 40	73 ¹	74	
	5 45 40	6 39 53	24 13 ¹	12 22 55 ¹	11 36 37 ¹		73 ¹	74	3
30.	The Time-keepers were carried on shore at Funchial, on the island of Madeira, and compared with the Clock by which the times of equal altitudes had been noted, (See page 6.) from whence I find, that N ^o . 1 made the difference of Longitude, between Drake's Island, and the above-mentioned place, 12° 29' 16", and N ^o . 2 made it 11° 37' 57", that is 16° 45' 23 ¹ / ₂ , and 15° 54' 4 ¹ / ₂ West of Greenwich.								
Aug. 2.	Noon.		75 23			32 0 ¹ / ₂	73	72	
	20 59 35	21 53 21 ¹	34 32 ¹	12 52 22 ¹	11 52 45 ¹	30 0	73	74 ¹	4
3.	Noon.		77 24			29 43 ¹ / ₂	75	73	
	6 11 51	7 5 46 ¹	18 4 ¹ / ₂	13 5 52	11 55 9	29 25	72 ¹	72	5
4.	Noon.		78 11			28 40 ¹ / ₂	74	73	
	4 25 44	5 19 39 ¹	41 40 ¹	13 58 30	12 47 58	28 29	74 ¹	73	2

17	Time & Watch		Altitude of the Sun	Longitude West of Drake's Island		Latitude of the Ship N	Thermom		Wind
	No	No		By No 1	By No 2		C	D	
1	42 4		37 51 $\frac{1}{2}$			2 29	74 $\frac{1}{2}$	73	1
2	53 13		35 37 $\frac{1}{2}$	13 52 15		26 29	74 $\frac{1}{2}$	73	
3	50 28		10 10 $\frac{1}{2}$			21 25	71	74	1
4	Noon		78 42			27 53	74	74	
5	5 22 41 $\frac{1}{2}$		29 18 $\frac{1}{2}$			27 31 $\frac{1}{2}$	74	73	5
6	5 52 53 $\frac{1}{2}$		22 38 $\frac{1}{2}$	14 15 45		27 30 $\frac{1}{2}$	71	73	1
7	Noon		80 12			6 6 $\frac{1}{2}$	74	73	
8	20 44 13 $\frac{1}{2}$	21 38 8	28 48 $\frac{1}{2}$	14 44 37 $\frac{1}{2}$	13 36 51	24 32	71	76	1
9	Noon		81 54			4 87 $\frac{1}{2}$	74 $\frac{1}{2}$	75	
10	Noon		83 34			27 10 $\frac{1}{2}$	73	76	
11	6 2 13		20 19 $\frac{1}{2}$	15 22 18		21 50	73	73	
12	20 19 15	21 13 17 $\frac{1}{2}$	21 23 $\frac{1}{2}$	16 1 30	14 31 0	20 42	74	71	5
13	Noon		85 18			20 8 $\frac{1}{2}$			
14	Noon		87 8			18 1	77 $\frac{1}{2}$	77	
15	22 28 40	23 22 29	49 25 $\frac{1}{2}$	17 57 30	16 19 20	16 29	77	78 $\frac{1}{2}$	5
16	Noon		88 40			16 11 $\frac{1}{2}$			
17	1 9 54	22 3 43 $\frac{1}{2}$	30 04	18 23 7 $\frac{1}{2}$	16 41 27	15 12	77	78	1
18	5 45 55	6 39 26	24 45	18 14 7 $\frac{1}{2}$	16 17 10	13 23	79	79 $\frac{1}{2}$	1
19	20 40 50 $\frac{1}{2}$	21 34 19	22 46 $\frac{1}{2}$	18 17 0	16 17 30	12 36	79 $\frac{1}{2}$	79	4
20	Noon		88 40			12 21	79	79 $\frac{1}{2}$	
21	Noon		88 23			11 25 $\frac{1}{2}$	80	81	
22	5 56 30	6 50 5	19 39 $\frac{1}{2}$	16 24 54	14 19 0	11 18	80	77	4
23	19 53 25		13 19	15 57 30		10 47	79	76	3
24	0 21 32	21 13 19	20 27 $\frac{1}{2}$	15 20 0	13 12 0	9 17	78	77	4
25	Noon		86 38			8 41	79	78	
26	Noon		86 11			7 55 $\frac{1}{2}$	79	78 $\frac{1}{2}$	
27	20 42 16 $\frac{1}{2}$	21 36 29	28 33 $\frac{1}{2}$	11 56 46 $\frac{1}{2}$	9 45 0	7 4			
28	Noon		85 30			6 53 $\frac{1}{2}$	79	79 $\frac{1}{2}$	4
29	Noon		85 22			6 24 $\frac{1}{2}$			
30	45 33	6 39 56	14 58 $\frac{1}{2}$	10 9 0	7 55 0	6 20	79	78	4
31	Noon		85 12			5 53 $\frac{1}{2}$	80	79 $\frac{1}{2}$	
32	20 32 46	21 27 26	30 57	6 49 46	4 31 9	4 27	79 $\frac{1}{2}$	80	4
33	Noon		84 14			4 13 $\frac{1}{2}$	79	80	
34	1 26 53	5 21 36	30 7 $\frac{1}{2}$	6 23 27	4 17 50	4 9	77 $\frac{1}{2}$	78	8
35	Noon		84 02			3 40 $\frac{1}{2}$			
36	5 2 37 $\frac{1}{2}$	5 57 29	19 41	4 53 43 $\frac{1}{2}$	2 23 30	3 36	76 $\frac{1}{2}$	78	6
37	19 23 32 $\frac{1}{2}$	0 18 29	16 40 $\frac{1}{2}$	4 7 30	1 46 38	3 20	77	77 $\frac{1}{2}$	6
38	Noon		83 58			3 15 $\frac{1}{2}$			
39	5 16 30 $\frac{1}{2}$	6 11 31	14 44 $\frac{1}{2}$	3 29 25	1 8 15	3 10	76	77	6
40	Noon		83 44		East	2 40	78 $\frac{1}{2}$	78	
41	20 4 8 $\frac{1}{2}$	20 59 26	30 20 $\frac{1}{2}$	0 27 39	1 54 45	2 31	77	78	6
42	Noon		84 0			2 34 $\frac{1}{2}$	78	78 $\frac{1}{2}$	
43	4 30 54	5 25 53	22 31 $\frac{1}{2}$	0 8 16	2 14 51	2 31 $\frac{1}{2}$	77	78 $\frac{1}{2}$	6
44	0 15 21	21 10 41	33 20 $\frac{1}{2}$	0 14 30	2 10 4	2 4	77	78	6
45	Noon		83 47			1 59	78	78 $\frac{1}{2}$	
46	3 6 41 $\frac{1}{2}$		38 21 $\frac{1}{2}$			1 55 $\frac{1}{2}$	77 $\frac{1}{2}$	78	
47	1 42 5 $\frac{1}{2}$	1 38 14	34 26 $\frac{1}{2}$	0 24 57	2 0 51	1 55			

ON BOARD THE ADVENTURE.

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1772.		Time by Watch		Altitude of the ☉'s L. L.	Longitude West of Drake's Island		Latitude of the Ship N.	Thermom.		No. of Obs.
		No. 1.	No. 2.		By No. 1.	By No. 2.		C.	D.	
		H "	H "		" "	" "				
1	Sept. 2.	Noon.		83 33			1 23 $\frac{1}{2}$	78	78 $\frac{1}{2}$	
2	— 3.	Noon.		83 32 $\frac{1}{2}$			1 0 $\frac{1}{2}$	77	77 $\frac{1}{2}$	
3	— 4.	Noon.	19 26 28	18 6 $\frac{1}{2}$	3 29 51	0 58 3	0 53	77	77	6
4	— 5.	Noon.	3 0 58 $\frac{1}{2}$	47 44 $\frac{1}{2}$		West.	0 51	77 $\frac{1}{2}$	77	
5	— 6.	Noon.	3 30 58 $\frac{1}{2}$	40 23 $\frac{1}{2}$	3 46 21	1 14 9	0 49	76 $\frac{1}{2}$	77	6
6	— 7.	Noon.	3 22 26	42 39 $\frac{1}{2}$			0 49	76	77	6
7	— 8.	Noon.	3 43 19	37 22	3 50 46 $\frac{1}{2}$	1 19 45	0 56 $\frac{1}{2}$	77	77 $\frac{1}{2}$	
8	— 9.	Noon.	5 41 22	7 59			0 55	77	76 $\frac{1}{2}$	3
9	— 10.	Noon.	19 34 3	20 30 12	Altitude of ☉'s L. L.		0 51	76	75 $\frac{1}{2}$	6
10	— 11.	Noon.	4 18 59	5 15 15	3 6 30	0 27 6	0 40	76	77	
11	— 12.	Noon.		84 15			0 35 $\frac{1}{2}$	76 $\frac{1}{2}$	76	6
12	— 13.	Noon.		27 20 $\frac{1}{2}$	2 45 24	0 16 25	0 31	77	76	
13	— 14.	Noon.		84 25			0 23 $\frac{1}{2}$	76 $\frac{1}{2}$	76	6
14	— 15.	Noon.	20 11 42	21 8 17	3 0 36	0 30 51	South.			
15	— 16.	Noon.	4 8 6 $\frac{1}{2}$	5 4 43 $\frac{1}{2}$			0 11	76	75	6
16	— 17.	Noon.	20 6 32	21 3 12 $\frac{1}{2}$	3 32 33	1 2 16	0 18	76	75 $\frac{1}{2}$	
17	— 18.	Noon.	5 16 42 $\frac{1}{2}$	6 13 25	3 55 6	1 24 15	0 20	76	75	6
18	— 19.	Noon.	5 2 9 $\frac{3}{4}$	5 58 59	4 18 22 $\frac{1}{2}$	1 46 7 $\frac{1}{2}$	0 50	76	76	6
19	— 20.	Noon.	19 53 34	20 50 25	5 34 10 $\frac{1}{2}$	3 0 15	0 64 $\frac{1}{2}$	76	76 $\frac{1}{2}$	
20	— 21.	Noon.	4 43 28	5 39 56	6 21 19 $\frac{1}{2}$	3 45 31	1 0	76	75 $\frac{1}{2}$	6
21	— 22.	Noon.	4 50 8 $\frac{1}{2}$	5 47 10	6 44 45	4 8 30	1 57 $\frac{1}{2}$	76	75 $\frac{1}{2}$	
22	— 23.	Pocket Watch.	0 54 11	79 21	7 36 20	4 58 45	2 7	76	75	6
23	— 24.	Pocket Watch.	1 55 15	66 54			2 49	76	76	
24	— 25.	Noon.	4 32 32	5 29 33	8 37 36	5 56 36	2 59 $\frac{1}{2}$	76	76	6
25	— 26.	Noon.	5 7 10	6 4 34	9 38 46	7 0 15	3 10	76	75 $\frac{1}{2}$	
26	— 27.	Noon.	21 9 40	22 7 24 $\frac{1}{2}$	11 0 0	8 19 30	4 10 $\frac{3}{4}$	76	75 $\frac{1}{2}$	6
27	— 28.	Pocket Watch.	1 19 23	74 20 $\frac{1}{2}$			4 20	76	75	
28	— 29.	Pocket Watch.	2 26 2	60 47 $\frac{1}{2}$			5 5			6
29	— 30.	Noon.	5 26 50	6 24 33 $\frac{1}{2}$	11 20 14	8 40 55	5 15	76	75	3
30	— 31.	Noon.	21 24 24	22 22 25	11 45 27	9 7 3	6 29 $\frac{1}{2}$	75	75 $\frac{1}{2}$	3
31	— 1.	Noon.	21 5 14	22 3 19	12 21 5	9 40 34	6 41	75	75	3
32	— 2.	Noon.	20 28 28	21 26 42	13 13 53	10 17 3	8 9 $\frac{3}{4}$	75	75	4
33	— 3.	Noon.	9 52 29	14 54			9 26	73	73 $\frac{1}{2}$	3
34	— 4.	Noon.	20 15 58	21 14 15	13 54 25	11 10 10	9 37	73 $\frac{1}{2}$	73	4
35	— 5.	Noon.		20 24 $\frac{1}{2}$			10 47	75	73 $\frac{1}{2}$	3
36	— 6.	Noon.					11 0 $\frac{1}{2}$	75	74	3
37	— 7.	Noon.					12 12	75	74	5
38	— 8.	Noon.					12 26 $\frac{1}{2}$	73	72 $\frac{1}{2}$	6
39	— 9.	Noon.					13 48 $\frac{1}{2}$	74	73	
40	— 10.	Noon.					14 4 $\frac{1}{2}$			
41	— 11.	Noon.					15 19			
42	— 12.	Noon.					15 20			

1772	Time by Watch		Altitude of the ☉ : L L	Longitude West of Dral e Island		Latitude of the Ship	11	10	9
	No 1	No 2		By No 1	By No 2				
	H	H							
O Sept 20	Noon		73 26			15 45	/	/	
	12 14 54	22 13 11	33 39½	14 40 30	11 50 0	16 56			
3 — 1	Noon		72 16			17 19			
	20 38 59	21 37 17½	24 42½	15 5 45	12 15 0	18 21			3
	20 52 42½		27 48½			18 25			
	23 19 37		16 7½			18 25½			
8 — 22	Noon		71 9			18 30½	/	/	
	21 32 48½	2 31 12	36 35½	15 35 30	12 42 51	19 51			
H — 23	Noon		70 03			20 6½	/	/	
	21 21 14	22 19 49	33 28½	15 57 45	13 4 27	21 19			3
	Pocket	10 41 52	50 58						
	Watch	12 7 13	65 49			21 30			
11 — 24	Noon		69 5			21 28	/	/	
8 — 25	Noon		68 6			2 50½	/	/	
	20 32 47½	21 30 13½	21 17½	17 20 7	14 3 9	23 59			
h — 26	Noon		67 7			24 12½	2	/	
	20 4 21	21 0 24	15 14½	17 7 12	13 26 15	24 30			4
O — 27	Noon		67 3			24 40	/	/	
	20 9 43	21 5 36	16 46½	16 56 45	13 10 1	25 18	/	/	
B — 28	Noon		66 38			25 28½			
	0 16 01	21 12 1	19 6½	16 4 16	12 16 0	26 4			
8 — 29	Noon		66 16½			6 11½	71	/	
	4 33 10	5 29 13½	32 2½	15 24 0	11 35 0	26 16			
8 — 30	Noon		65 55½			26 58	/	/	
	5 20 52	6 17 8	19 25½	12 57 45	9 9 0	7 5½			
14 Oct 1	Noon	20 33 44½	14 55				/	0	
	4 35 34	5 31 56	27 48½	11 8 25	7 17 45	27 25	/	/	
	19 21 22½	20 17 15½	12 21½	10 43 35	6 43 16	27 27			
8 — 2	Noon		66 7			27 29			
	5 33 39	6 29 16	14 9½	9 58 54	5 53 30	27 33½			
			20 26½	2 s L L		27 40	66	6	
h — 3	Noon		66 0			27 12	66	6	
	5 24 59½	6 20 36	14 37½	8 15 10	4 6 15	28 4	66	6	
O — 4	Noon		65 29			28 10			4
	5 0 44	5 55 47	17 48½	5 46 27	1 26 0	28 55½	66½	66	
3 — 5	Noon		65 50			29 6	66	6	
	4 9 11		27 46½	4 17 45		29 0	66	6	
						28 51	63	/	

Here Mr Bayle remarks, that the Watch (No 2) began to go very irregularly, from what cause he could not tell and on this account he left off computing the Longitude of the ship from it

1772.	Time by Watch, No. 1.	Altitude of the \odot 's L. L.	Longitude West of Drake's Island.	Latitude of the Ship S.	Barometer.	Thermom. C. D.		Remarks.
	H	° ' "	° ' "	° ' "				
8 Oct. 6.	Noon.	65 31		29 32 $\frac{1}{2}$		64	61	
	20 0 38	26 46 $\frac{1}{2}$	4 53 48	31 0		63	59	3
9 — 7.	Noon.	64 18		31 18 $\frac{1}{2}$		64	59	
	5 28 33	11 22 $\frac{1}{2}$	4 52 51	31 34		64	58	3
11 — 8.	Noon.	63 17		32 42		64	59	
	20 20 8	31 57 $\frac{1}{2}$	3 25 34	33 40		64	58	5
9 — 9.	Noon.	62 30		33 52 $\frac{1}{2}$		64	59	
10 — 10.	Noon.	62 17		34 28 $\frac{1}{2}$		64	61	
	4 54 58	15 26 $\frac{1}{2}$	0 53 16	34 34		64	62	6
11 — 11.	Noon.	62 27		34 41		66	59	
			East.					
	4 33 27	18 58 $\frac{1}{2}$	0 21 49	34 44		64	61	6
	18 41 53	15 54 $\frac{1}{2}$	0 40 33	34 45		63	58	6
12 — 12.	Noon.	62 41		34 49 $\frac{1}{2}$		66	65	
	4 59 16	13 23	0 56 31	34 51		65	64	3
13 — 13.	Noon.	62 44		35 9	29.8	64	65	
14 — 14.	Noon.	62 46		35 29 $\frac{1}{2}$	29.9	65	60	
	18 55 49	23 98 $\frac{1}{2}$	5 49 27	35 33		64	62	5
15 — 15.	Noon.	62 46		35 33		64	61	
	4 12 38 $\frac{1}{2}$	18 37 $\frac{1}{2}$	6 44 7	35 32				6
	18 41 41	23 15 $\frac{1}{2}$	8 42 36	35 18				6
16 — 16.	Noon.	63 46		35 14		65	62 $\frac{1}{2}$	
	18 11 47	19 28 $\frac{1}{2}$	11 3 54	35 3		63	57	3
17 — 17.	Noon.	64 25		34 57 $\frac{1}{2}$		63	59	
18 — 18.	Noon.	65 11		34 32 $\frac{1}{2}$	29.96	63	59	
	3 41 15	19 0 $\frac{1}{2}$	14 47 0	34 39				3
19 — 19.	Noon.	65 43		34 21 $\frac{1}{2}$	29.97	64	59	
	3 53 38	16 9 $\frac{1}{2}$	15 19 0	34 24				4
	18 26 19	26 52 $\frac{1}{2}$	15 34 0	34 37				4
20 — 20.	Noon.	65 41		34 45 $\frac{1}{2}$	29.9	64	59	
	17 7 6	11 5 $\frac{1}{2}$	15 41 0	35 12	29.9	62	54	5
	Meridian } Altitude. }	43 23 $\frac{1}{2}$	D's U. L.	35 18 $\frac{1}{2}$				
21 — 21.	Noon.	65 17		35 31 $\frac{1}{2}$	30.2	65	59	
22 — 22.	Noon.	64 20		36 49	29.8	65	59	
23 — 23.	Noon.	64 20		37 10	29.9	64	59	
24 — 24.	Noon.	65 12		36 38 $\frac{1}{2}$	30.1	62	57	
	3 54 33	13 31 $\frac{1}{2}$	20 9 18	36 29	29.9	62	54	6
25 — 25.	Noon.	66 45		35 26	30.2	60 $\frac{1}{2}$	56 $\frac{1}{2}$	
	3 31 22	16 22 $\frac{1}{2}$	21 56 24	35 19	30.0	61	57	6
26 — 26.	Noon.	67 49		34 43	30.0	61	58 $\frac{1}{2}$	
	3 6 11	20 46	23 0 9	34 35	30.0	60	56	4
27 — 27.	Noon.	69 6		33 46 $\frac{1}{2}$	30.0	64	61	
	3 31 30	14 46 $\frac{1}{2}$	24 6 4	33 46 $\frac{1}{2}$	30.0	60	56 $\frac{1}{2}$	6
28 — 28.	Noon.	69 34		33 38	30.0	64	62 $\frac{1}{2}$	
	3 12 45	18 6 $\frac{1}{2}$	24 57 15	33 44	29.9	62	59 $\frac{1}{2}$	3

1772	Time by No 1		Altitude of the ☉ L L	Longitude from the Cape	Latitude of the Ship S	Baro meter	Thermom		50°	Remarks
	H	"					C	D		
4 Oct 29	Anchored in Table Bay, and on November 4th, Mr Bayley computed the watch No 1 with the clock C, and continued to do so every day until the 11th from which comparisons he computed that it was then losing it the rate of 30 3 1 day on mean solar time; and that when it was compared with the clock on November the 4th, it was 1 h 49 9, 1 too slow for mean time at the Cape of Good Hope. Consequently, allowing the rate it went at, when at Greenwich this watch will make the Cape of Good Hope 27° 3, 1/4 E. of Drake's Island in Plymouth Sound or, allowing Drake's Island to lie in 4° 16 1/2 West, 23 21 1/2 S of Greenwich that is, 4 58 1/2 more than the Observations of Messrs Mason and Dixon make it. The watch No 2 went so imperfectly, for some time before our arrival at this place, that I apprehend it will be quite unnecessary to make any computation of its rate of going at the Cape, or the longitude shewn by it. It stopped entirely before we left the place									
10 Nov 2	We sailed out of Table Bay, and at noon Mr Bayley computed that the watch was 1 h 55 12, 6 too slow for mean time at the Cape of Good Hope on which supposition, and that its rate of going is as above determined, the longitude of the ship will be computed in future									
D — 23	16 42 18	21 23 1/2	0 33 48 W	35 13			67	61	31	
U — 25	3 39 56	16 4	1 49 52 W	37 43			66	62	3	
I — 6	17 4 9	28 36 1/2	2 34 0 W	38 40			66	60	4	
2 — 27	Noon	71 55		39 0 1/2						
2 — 27	Noon	71 5		40 1 1/2						
h — 28	3 30 8 1/2	18 35 1/2	1 42 43 W	40 18			66 1/2	53	4	
h — 28	Noon	70 22		40 54 1/2			64	59		
O — 29	Noon	69 19		42 7 1/2			63	52		
D — 30	Noon	69 11		42 45 1/2			62	55		
11 Dec 3	3 17 8 1/2	20 49 1/2	0 24 6 W	42 33			63	52	4	
2 — 4	3 35 37	17 51 1/2		44 46			57	46	4	
2 — 4	Noon	66 27		45 43 1/2			55 1/2	45		
I — 5	21 42	27 19 1/2	0 15 18 E	45 56			54	42	6	
I — 5	Noon	65 9		47 9 1/2			53 1/2	46		
O — 6	3 45 37	17 28 1/2	0 14 34 E	48 39			50 1/2	35	4	
D — 7	Noon	62 43		49 49			49	42		
2 — 9	Noon	62 58		49 46			49	34		
11 — 10	1 28 46	15 38 1/2	2 54 4 1/2 E	50 44			48	31 1/2	6	
2 — 11	Noon	61 46		51 3 1/2			49	35		
2 — 11	Noon	61 4		51 50						
2 — 16	3 1 55	23 27 1/2	3 20 12 E	52 5						
2 — 16	17 21 49	34 25 1/2	5 21 34 E	55 13			47	33	4	
2 — 17	Noon	57 52		55 21			44	31	3	
2 — 17	1 9 55	16 20 1/2	6 15 45 E	55 6						
h — 19	Meridian						44	30 1/2	3	
h — 19	Altitude	37 28	3 3 U L	55 5						
2 — 21	3 4 1 1/2	15 42 1/2	7 33 30 E	54 22						
2 — 21	Noon	59 09		54 7			44	31 1/2	3	
2 — 21	3 1 12	19 44 1/2	11 26 48 E	54 34			45	34		
2 — 21	Noon	56 24		54 51 1/2			45	31 1/2	4	

1771.	Time by No. 1.		Altitude of the ☉'s L. L.	Longitude East of the Cape.	Latitude of the Ship S.	Barometer.	Thermom.		No. of Obs.	Remarks.
	H	"					C.	D.		
♂ Dec. 22.	15	34 16	23 49 $\frac{1}{2}$	13 44 15	55 20		45	32	3	
♂ — 23.	Noon.		57 51		55 24		48	31 $\frac{1}{2}$		
	16	59 18 $\frac{1}{2}$	35 33 $\frac{1}{2}$	13 37 0	56 19		46	32	6	
u — 24.	Noon.		56 44		56 29 $\frac{1}{2}$	29,35	50	34		
h — 26.	Noon.		54 40		58 29 $\frac{1}{2}$	29,35				Very good.
	3	34 32	17 52 $\frac{1}{2}$	8 29 31 $\frac{1}{2}$	58 33	29,4	46	32	6	Ditto.
	4	22 0	12 8 $\frac{1}{2}$	8 23 21	58 34	29,4	46	32	4	Ditto.
o — 27.	Noon.		54 46:		58 20 $\frac{1}{2}$	29,5	47	35		Hazy.
♂ — 29.	Noon.		53 49:		59 11	29,1	49	33		Ditto.
h — 30.	Noon.		53 34:		59 21 $\frac{1}{2}$	29,15	50	34		Ditto.
				West.						
	2	21 14	32 4 $\frac{1}{2}$	1 12 51	59 26	29,1	47	32	7	Ditto.
1773.										
h Jan. 2.	Noon.		53 23:		59 17 $\frac{1}{2}$					Very hazy.
	3	9 3	29 01 $\frac{1}{2}$	7 23 27	59 01	29,3	47	31 $\frac{1}{2}$	6	
	5	4 20	14 28 $\frac{1}{2}$	7 26 15	58 56	29,55	46	31	4	
	Meridian } Altitude. }		19 33	☉'s U. L.	58 49 $\frac{1}{2}$	29,5	46	31		
h — 4.	Noon.		53 27		59 01	29,48	46	33		Hazy.
	9	53 0	51 59	Pocket }						
h — 6.	11	7 5	48 22	Watch. }	59 59	Ship's course E. by S. true, five miles an hour.				
				East.						
	14	10 51	11 17 $\frac{1}{2}$	9 24 54	60 25	29,1	45	33	3	A little hazy.
	14	36 46	14 15 $\frac{1}{2}$	9 30 30	60 27	29,1	45	33	4	Ditto.
	16	39 28	29 14 $\frac{1}{2}$	9 47 40	60 30	29,1	47	33 $\frac{1}{2}$	3	Ditto.
h — 7.	Noon.		51 30 $\frac{1}{2}$		60 36	29,0	50	34		Ditto.
	15	24 46	21 59	13 47 0	61 13	28,95	45	32	4	Very clear.
	7	16 41	46 59	Pocket }		Ship's true course E. S. E. $\frac{1}{2}$ E. distance				
	9	17 30	50 30	Watch. }	61 19 $\frac{1}{2}$	run, 10 $\frac{1}{2}$ miles between the Observations.				
♂ — 8.	14	49 39	19 8 $\frac{1}{2}$	16 41 30	61 33	28,91	45	32 $\frac{1}{2}$	4	Pretty clear.
h — 9.	Noon.		50 15		61 35	29,07	47	35		Good.
	6	27 19	43 34	Pocket. }		Correct course S. S. E. 3 miles an hour.				
	8	7 15	49 21	Watch. }	61 55	Course, &c. as before.				
o — 10.	9	16 5	49 18	Ditto.	61 57	Course, &c. as before.				
	1	32 20 $\frac{1}{2}$	27 3 $\frac{1}{2}$	18 49 30	62 10	29,1	46	33	4	Clear, and Good.
	Meridian } Altitude. }		14 30	☉'s L. L.	62 44					
	16	25 7	31 10 $\frac{1}{2}$	19 40 57	63 4	29,2	48	32 $\frac{1}{2}$	4	
	7	29 18	46 42	Pocket }						
h — 11.	9	21 24	47 31	Watch. }	63 22					
	13	39 22	13 31 $\frac{1}{2}$	20 37 30	64 13	29,3	47	33	3	
♂ — 12.	Noon.		47 08		64 14	29,35	50	35		Good.
	1	57 42	23 0 $\frac{1}{2}$	20 43 6	64 12	29,32	49	34	5	
h — 13.	Noon.		46 59		64 13 $\frac{1}{2}$	29,4	49	34		Good.
	16	46 6	33 23	21 30 01 $\frac{1}{2}$	64 02	29,3	46	32 $\frac{1}{2}$	3	
u — 14.	Noon.		47 01		63 59 $\frac{1}{2}$	29,25	49	35 $\frac{1}{2}$		

1773	Time by No 1		Altitude of the \odot s		Longitude East of the Cape		Latitude of the Ship South		Baro meter	Thermo		Wind	Remarks
	H	M	°	'	°	'	°	'		C	D		
14 Jan	14	2 48 16	16 48	16	21 38	28	63 57	9	47	33	3		
		15 39 39 $\frac{1}{2}$	26 24	24	21 52	25	63 37	29,05	49	31	4	Good	
☾	15	Noon	47 15				63 35	29 05	50	37		Ditto	
☿	16	Noon	46 7				64 32	29,0	49	35		Ditto	
		2 22 1	19 25	25	21 35	30	64 58	29,07	48	33	3		
☾	17	Noon	43 53				66 34	28 9	47	32		Hazy	
		25 0 $\frac{1}{2}$	25 7 $\frac{1}{2}$		21 23	39	67 2	28,9	46	33	6	Hazy	
☿	18	Noon	44 16				65 58	28,95	46	33		Very hazy	
		1 14 40	20		21 37	46	65 38	28,9	45	32	6	Bad horizon	
		15 54 59	27 15	27	22 7	9	64 45	28,95	46	33	3	Ditto, and high sea	
☾	19	Noon	45 32				64 29 $\frac{1}{2}$	28,95	47	34		Good	
☿	20	0 57 8	27 25	27	22 37	10	63 45	28,7	45	32	3	A little hazy	
		16 28 45	31 30	31	23 29	30	62 57	29,0	46	33	3		
☾	21	1 46 24	21 10	21	23 54	4	62 28	28 75	47	31	3		
☿	22	Noon	47 48				61 33 $\frac{1}{2}$	29 25	49	31		Good	
		14 16 38	18 4	18	5 58	3	60 25	29 25	47	34	6	l lying clouds	
☾	23	Noon	49 06				60 02 $\frac{1}{2}$	29 1	47	33		Good	
☿	24	Noon	50 29				58 23 $\frac{1}{2}$	29,13	46	33		Hazy	
		0 17 30 $\frac{1}{2}$	28 25	28	32 15	9	58 5	29,2	48	33	3	Bad horizon, and a	
		2 39 7	9 14 $\frac{1}{2}$	9	32 23	31	58 1	29,2	48	33	4	high sea	
☾	26	15 55 0	33 15	33	33 45	15	56 44	28 75	45	33	4		
☿	27	Noon	51 38				56 29 $\frac{1}{2}$	29,0	47	35			
		0 47 38	22 6 $\frac{1}{2}$	22	34 3	21	56 12	29,1	47	33	3	Very good	
		15 24 19	21 16	21	34 35	27	55 3	29,5	48	36	6	Ditto	
☾	28	Noon	53 20				54 31 $\frac{1}{2}$	29,5	48	36			
☿	29	Noon	55 8				52 27 $\frac{1}{2}$	29,55	48	37		Hazy, and a great sea	
☿	30	15 10 11	31 11 $\frac{1}{2}$	31	40 7	54	51 10	29 55	44	38	6	Very good	
☾	31	8 0 53	55 2				Pocket						
		9 5 8	49 46				Watch						
		14 58 34	29 49 $\frac{1}{2}$	29	40 35	22	49 10	20,0	49	41	5	Very Good	
☾	Feb 2	7 53 27	56 24				Pocket						
		9 20 21	47 27				Watch						
		0 39 41	15 43	15	43 7	34	48 1	30,15	54	44	5	Very good	
		13 26 1	16 42	16	44 8	4	48 42	30,1	51	43	6	Ditto	
		5 35 55	53 39				Pocket						
		6 44 29	57 32				Watch						
☿	3	14 59 36	30 59	30	42 56	33	49 4	29,8	50	43	4		
☾	4	Noon	50 38				49 15						
		0 57 40	13 5	13	42 23	48	49 37	29,7	49	43	3		
		14 45 46	28 6 $\frac{1}{2}$	28	42 1	52	49 12	29,55	51	40	6		
☾	5	Noon	56 30				49 37 $\frac{1}{2}$	29,5	52	41		Good	
☿	6	0 20 34	18 54 $\frac{1}{2}$	18	42 2	1	48 34	29,6	49	40	6		
☾	7	13 40 19	18 46 $\frac{1}{2}$	18	44 4	13	48 38	29,45	50	43	6	Clear and good horizon	
☿	8	Noon	56 5				48 52	29,8	52	44		Very good	
☾	9	0 19 36	16 2 $\frac{1}{2}$	16	45 58	27	49 4	29,85	48	42	6	Hazy	
		Noon	54 2				50 17					Good	

1773.	Time by No. 1.		Altitude of the ☉ & L. I.	Longitude East of the Cape.	Latitude of the Ship South.	Baro- meter.	Thermom.		No. of Obs.	Remarks.
	H	M					C.	D.		
8 Feb.	9.	13 33 16	19 39½	48 47 9	50 13	29,6	49	39	6	
8	10.	Noon.	54 7		49 52½	29,4	51	40		Good.
		12 48 29	12 39½	49 18 10	50 00	29,15	51	40	4	
21	11.	Noon.	53 22		50 18½	28,9	52	42		Good.
2	12.	12 53 49	16 00½	53 48 10½	51 00	29,6	47	37	6	
10	14.	Noon.	51 01		51 39½	29,5	51	39½		Good.
		21 23 22	33 2½	58 41 51	51 47	29,6	50	38	6	
		13 9 31	22 22½	60 57 21	52 10	29,65	47	37	6	
3	15.	Noon.	50 7		52 13	29,7	50	39		Good.
		14 27 45	34 53½	63 39 00	52 27	29,65	44	36	4	
14	17.	13 33 9	30 35½	70 39 6	52 54	28,95	46	37	6	
24	18.	Noon.	48 26		52 51½	29,05	46	40		Good.
		2 33 44	40 12	Pocket Watch.	52 35	Ship's course at right angles to the Sun's bearing at the first Observation.				
		4 11 16	47 41							
2	19.	11 18 29	15 14½	78 37 27	52 20	29,1	42	36	6	
5	20.	Noon.	48 19		52 16	29,05	49	36½		
		10 44 42	12 4½	82 16 48	52 18	29,5	51	40	6	
10	21.	Noon.	48 00		52 14	29,6	53½	41		
		21 42 52½	13 02½	83 3 3	52 9	29,55	48	38	3	
3	22.	13 11 7	34 56½	86 10 30	52 20	28,35	49	39	4	
8	23.	Noon.	47 13		52 17½	28,5	51	41½		Good.
		22 10 35½	5 10½	87 57 42	52 16	28,45	51	41½	4	Bad horizon.
		11 56 6	26 8½	88 57 42	52 9	28,3	53	40	6	
12	24.	Noon.	47 1		52 7½	28,5	54	43		Good.
		11 46 24½	26 34½	92 22 28½	51 47	29,35	52	41	6	
24	25.	Noon.	47 5		51 41½	29,45	53	45		Good.
		20 19 32	17 38½	94 6 48	51 35	29,65	49	40	5	
		10 28 55	17 9½	96 9 39	51 21	29,95	53	43	6	
5	27.	9 26 44	12 3	104 3 30	50 29	29,2	55	43	6	
10	28.	Noon.	47 15		50 24	29,45	54	43½		Good.
		19 31 31	16 50½	105 56 49	50 15	29,3	53	54	4	
		9 52 48	18 20	107 25 21	49 24	29,55	54	47	6	
14	March 3.	19 29 37	10 52½	114 19 34	45 56	29,5	55	52	5	
		8 40 53½	11 27½	115 24 15	45 14	29,7	57	49	6	
24	4.	Noon.	51 20		44 48					
		18 17 34	21 45	116 25 30	44 32	29,65	54	51	4	
		Regulus.	31 40	Meridian Altitude.	44 21					
		9 45 16	24 41½			29,85	59	52	6	
2	5.	Noon.	51 42	118 18 48	44 08	29,75	59	56		Good.
		9 4 36	19 54½	121 44 30	43 55	29,8	58	53	4	
12	6.	Noon.	51 24		43 57½	29,6	58	52		
		18 15 43	16 37½	123 29 21	43 54	29,45	58	51½	4	
		8 33 55½	16 3	124 13 3	43 46	29,7	56	51	6	
10	7.	Noon.	51 13		43 46½	29,75	59	52½		
		18 17 14	14 39½	125 12 24	13 47	29,9	59	54½	6	

1773	Time by N 1	Altitude of the ☉ at L I	Longitude East of the Cape	Latitude of the Ship South	Dia meter	Th C	mon D	Notes	Remarks
	H								
○ March 7	9 15 27	24 49 $\frac{1}{2}$	126 33 37	43 45	29,9	59	54	6	
☾ — 8	Noon	50 55		43 40 $\frac{1}{2}$	29,9	59	55		Good
☽ — 9	Noon	50 27 $\frac{1}{2}$		43 45 $\frac{1}{2}$	30,0	59	57		A little hazy
	17 26 33	20 11	129 1 31	43 42	30,1	57	54	6	{ The S 1 mt of Van Diemen's I at N 5 mile
	9 11 21	26 15 $\frac{1}{2}$	130 22 49	43 22	30,15	64	56	6	{ At anchor off the entrance of Adventure Bay
☾ — 11	Noon	50 1	Dip 2 0	43 22 $\frac{1}{2}$	29,95	62	57		{ In the Entrance of Adventure Bay
☽ — 12	Noon	49 35	Dip 2 0	43 24	30,0	65	58		{ In the bottom of Adventure Bay
☾ — 15	Noon	48 31		43 20 $\frac{1}{2}$					{ At the entrance of Adventure Bay
	17 42 13 $\frac{1}{2}$	14 01 $\frac{1}{2}$	130 38 43 $\frac{1}{2}$	43 23	29,5	61	51	6	{ Off the entrance of Adventure Bay
	7 34 51	9 15	131 23 53	43 34	29,7	65	52	6	{ Off Van Diemen's I
☽ — 16	Noon	48 19 $\frac{1}{2}$		43 8 $\frac{1}{2}$	29,65	64	53		{ About four or five leagues off shore
	8 26 43	18 46 $\frac{1}{2}$	131 32 30	42 10	29,7	64	53		{ Van Diemen's I and from S W to N W 4 W
☽ — 17	Noon	49 20		41 44 $\frac{1}{2}$	29,9	64	54		{ St Patrick's Head, W N W 4 leagues
	7 37 34	10 5 $\frac{1}{2}$	131 57 8	40 47	29,85	62	53	6	{ The land from W 4 W to N W 1 y N
☾ — 18	Noon	50 19		40 21 $\frac{1}{2}$	29,95	65	54 $\frac{1}{2}$		{ The land from S to N W 1 y N 7 leagues
	8 5 52	15 17 $\frac{1}{2}$	131 33 55	39 44	30,15	63	57	6	{ Saw the 1 st group W 4 W 11 leagues
☽ — 19	Noon	50 56		39 21	30,05	64	59		A little hazy
	7 39 19	11 23	133 21 6	39 20	30,15	65	60	4	
☾ — 20	Noon	50 31		39 22 $\frac{1}{2}$	30,1	66	61		
○ — 21	17 19 43	14 37 $\frac{1}{2}$	133 57 41	39 20	30,15	63	56	6	
	Noon	50 19		39 16 $\frac{1}{2}$	30,15	65	59 $\frac{1}{2}$		
☽ — 23	6 58 25	5 24 $\frac{1}{2}$	136 7 30	39 32	30,1	64	57	6	
	8 30 59 $\frac{1}{2}$	24 26 $\frac{1}{2}$	138 32 45	38 55	30,1				
	9 38 11	35 39							
	11 25 40	47 46		38 58					{ The Sun bore N E 4 E at the first Observation and the ship's course was S by E 3 miles an hour
☽ — 24	Noon	49 21 $\frac{1}{2}$		38 57 $\frac{1}{2}$	30,05	61	58		
	7 34 31	15 10 $\frac{1}{2}$	140 25 10	39 17	30,05	61	58	3	
☾ — 25	Noon	48 34		39 20 $\frac{1}{2}$	30,1	62	60		
	17 0 39	10 57	141 4 45	39 26	30,3	63	60	6	
	7 22 0	13 58 $\frac{1}{2}$	142 14 41	39 58	30,25	65	61	6	
☽ — 26	Noon	47 26		40 6 $\frac{1}{2}$	30,25	63	61 $\frac{1}{2}$		
	16 49 51	10 51	143 11 31	40 12	30,35	62	59	6	
☾ — 27	7 8 19	12 32 $\frac{1}{2}$	144 0 6	40 13	30,45	66	61 $\frac{1}{2}$	6	
	Noon	46 54 $\frac{1}{2}$		40 14 $\frac{1}{2}$	30,5	65	61		

ASTRONOMICAL OBSERVATIONS,

If we compute all the way from England, at the rate it was going at Greenwich it will make this place 199 59 39 East of Drake's Island, in Plymouth Sound on 195 43 31 $\frac{1}{2}$ East of Greenwich
 June 7th we left Queen Charlotte Sound on which day at noon Mr Layley calculates that the Watch was 1, h 6 m 5 too slow for mean time at this place on which supposition, and that its rate of going was losing 25,66 a day on mean time, (See p 48) he computed the following Longitudes of the ship He moreover supposes, that the true Longitude of Queen Charlotte's Sound is 173 56 30 East, which is what his Observations, made there this time gave it

1773	Time by Watch	Altitude of the Sun	Longitude East of Greenwich	Altitude of the Ship's Path	Barometer	Thermom		No of Observations	Remarks
						C	D		
D June 7	6 29 16	6 26 $\frac{1}{2}$	174 23 3	41 10 $\frac{1}{2}$	30 1	59	49 $\frac{1}{2}$	6	
W — 9	6 11 48	5 4 $\frac{1}{2}$	179 0 4 $\frac{1}{2}$	43 49 $\frac{1}{2}$	29,6	59	53	6	
Th — 12	7 15 18 $\frac{1}{2}$	13 14 $\frac{1}{2}$	184 31 24	46 17	29,95	60	50	6	
Fr — 14	Noon	19 50		46 43 $\frac{1}{2}$	29 6	61	48 $\frac{1}{2}$	6	A little hazy
S — 15	Noon	19 45		46 45 $\frac{1}{2}$	29 7	61	49	6	Good
Mon — 17	12 29 20	9 18 $\frac{1}{2}$	185 2 55	16 51	29 8	60	48	6	
Tu — 18	Noon	20 6		16 19 $\frac{1}{2}$	29,8	59	49	6	Good
	Noon	20 35		15 49 $\frac{1}{2}$	29 9	59 $\frac{1}{2}$	49	6	Good
	5 57 5	7 41 $\frac{1}{2}$	189 40 50	43 15	30,1	58 $\frac{1}{2}$	47 $\frac{1}{2}$	6	
	7 19 2	16 12							
	10 5 27	20 17		45 12 $\frac{1}{2}$					
Th — 19	8 38 32	21 34							
O — 20	9 38 0	21 24		14 30					
D — 21	5 54 1	10 44 $\frac{1}{2}$	195 34 40	44 30	30,4	59	51	5	
Fr — 22	Noon	21 50		44 32 $\frac{1}{2}$	30,15	59 $\frac{1}{2}$	52	5	
W — 23	Noon	21 47		44 35 $\frac{1}{2}$	30,0	62	50	5	
Th — 25	5 42 11 $\frac{1}{2}$	11 37	196 55 45	42 58	29,45	62	52	6	
Fr — 26	Noon	23 27		43 5 $\frac{1}{2}$	29 3	67	55	6	
O — 27	Noon	24 5		42 23 $\frac{1}{2}$	29,35	63	53	6	
D — 28	8 36 44	11 29 $\frac{1}{2}$	197 40 12	12 24	29,4	62	52	5	Bad horizon
	Noon	24 8		12 24	29,35	64	53	5	
Fr — 29	4 37 54	3 49 $\frac{1}{2}$	198 24 52	42 40	29,45	62	53	6	Hazy
	Noon	23 49		42 45 $\frac{1}{2}$	29 35	67	53	6	
	11 41 56	11 28 $\frac{1}{2}$	198 24 54	42 52	29,55	70	52	6	
W — 30	5 30 1	11 11 $\frac{1}{2}$	199 13 12	12 56	29,55	63	51	6	
	Noon	23 39		42 59 $\frac{1}{2}$	29,45	63	51	6	
Th July 1	5 47 17 $\frac{1}{2}$	14 51 $\frac{1}{2}$	201 11 21	43 7	29,7	62	49	6	
	Noon	23 36		43 5 $\frac{1}{2}$	29,65	63	50	6	
Fr — 2	4 38 39	6 26 $\frac{1}{2}$	202 44 40	43 0	29,8	62	49	6	
	Noon	23 47		42 59	29,75	64	51	6	
	11 50 32	7 59 $\frac{1}{2}$	202 59 41	43 0	29,85	66	50	6	

1773.	Time by No. 1.	Altitude of the ☉ L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermom.		Remarks.
						C.	D.	
2 July	4 36 44	6 52½	204 1 39	43 9	29,65	60	47½	6
h —	Noon.	23 37		43 13½	29,8	67	53½	
o —	11 38 31½	8 32½	204 39 30	43 17	29,65	64	51	6
o —	Noon.	22 58		43 57½	29,9	59	50½	
h —	11 24 32	9 39½	205 23 34	43 47	29,9	61	48½	6
h —	4 32 37	9 20½	207 59 8	42 17	29,75	59	52	6
h —	Noon.	25 1		42 5½	29,75	61½	52½	
h —	11 30 31½	8 43½	208 16 25	41 52	29,85	59	49	6
h —	4 5 24½	6 43½	208 50 6	41 21	29,6	59½	52	6
h —	Noon.	25 55		41 17½				
h —	4 7 34½	7 43½	210 22 54	41 51	29,55	59	52	6
h —	6 40 30	23 33	Pocket Watch.	41 57	☉ north at the first Observation. Ship's course E. S. E. at the rate of six miles an hour.			
h —	8 34 15	24 27			29,75	59½	52½	5
h —	4 17 50	10 3½	212 43 48	42 33	29,9	60	51½	
h —	Noon.	24 48		42 38½	29,85	60	51½	6
h —	11 16 15	7 35½	213 12 16	42 43	29,8	58	55	6
h —	4 6 3½	9 25½	215 21 13	43 28	☉ N. N. E. & E. at the first Observat. Ship's course E. S. E. & E. Dist. run 20 miles.			
h —	4 34 49	13 7	Pocket Watch.	43 38½	30,0	57	46	5
h —	8 13 16	23 1		43 32	30,15	61	47	
o —	4 2 3½	10 13½	217 43 30	43 30½	30,25	59	47	6
o —	Noon.	24 11		43 16	30,3	59½	51½	
h —	3 40 46	8 43½	219 34 33	43 13½	30,25	60	55	6
h —	Noon.	24 36		43 0				
h —	3 15 56	6 16	220 44 37	42 57½	29,35	55½	47	6 A high sea;
h —	Noon.	25 0		41 34	29,4	62	50½	
h —	4 3 53	15 39½	223 39 55	41 23	29,6	50½	45	6 A rough sea;
h —	Noon.	27 2		39 58	29,8	52	44	
h —	3 33 20½	14 31½	226 4 18	39 42½	30,2	51	45	6
h —	Noon.	28 52		38 4	30,25	61	50½	
o —	2 48 54½	9 31½	226 35 56	37 51½	30,35	56	47½	6
o —	Noon.	30 53		37 41	30,2	61	54½	
h —	10 51 59	6 40½	226 37 45	36 30½	30,1	57	55	6
h —	Noon.	32 25		36 20	30,25	58½	54½	6
h —	10 49 41	7 40	226 55 10	35 36	30,15	62	55	
h —	2 34 17	9 7½	226 48 45	35 19½	29,75	65	64	3 Flying clouds.
h —	Noon.	33 47½		31 3½	29,7	67	64	
h —	Noon.	38 26		30 46	29,85	66	62½	6
h —	11 20 48	6 11½	225 24 36	29 33	29,9	66	64	
h —	2 23 47	9 48½	225 11 30	29 21½	Very hazy.			
h —	Noon.	40 20::		29 46	☉ N. W. & W. at second Observ. Ship's course N. E. distance run 9 miles.			
o —	7 39 19	38 47	Pocket Watch.		29,85	70	66	6
o —	9 32 36	26 19		29 3	30,0	70	68	
h —	2 6 50½	7 2½	224 40 8	28 53½	29,95	70	67	6
h —	Noon.	41 26		28 34				
h —	11 24 54	6 54½	224 58 31					

1773	Time by No 1		Altitude of the \odot s L L	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Therm in		No of Obs	Remarks
	H	M					C	D		
p July 6	2	11 1 $\frac{1}{2}$	9 1 $\frac{1}{2}$	225 13 15	8 0	29.95	71	68	0	
d — 27	Noon		12 57		27 55 $\frac{1}{2}$	30.0	71	69		
	11 16 54		8 36 $\frac{1}{2}$	225 13 42	27 51	29.9	69	67	6	
g — 8	Noon		43 4		27 42 $\frac{1}{2}$	30.1	70	69		
u — 9	Noon		43 31		27 29 $\frac{1}{2}$	30.0	72	70		
	10 55 47		13 14 $\frac{1}{2}$	224 12 53	27 20	29.95	70	68	4	
g — 30	Noon		44 10		27 3 $\frac{1}{2}$	30.0	72 $\frac{1}{2}$	71		
	11 11 56		9 59 $\frac{1}{2}$	225 13 15	26 57	30.0	73 $\frac{1}{2}$	69	6	
i — 31	Noon		45 9		26 19 $\frac{1}{2}$	29.75	70 $\frac{1}{2}$	67		
	11 13 4		9 50 $\frac{1}{2}$	225 46 0	26 10	29.8	71	67 $\frac{1}{2}$	6	
o Aug 1	1 56 16		10 33 $\frac{1}{2}$	226 48 9	23 28	30.1	69	67	6	
p — 2	Noon		48 45		23 14 $\frac{1}{2}$	30.05	70 $\frac{1}{2}$	70		
	11 32 2		6 29 $\frac{1}{2}$	226 42 42	23 5	30.0	69	68 $\frac{1}{2}$	6	
	1 34 12		6 46 $\frac{1}{2}$	227 2 31	22 26	29.9	71	71	6	
d — 3	Noon		50 4		22 10 $\frac{1}{2}$	30.15	72	72		
	2 10 25		15 10 $\frac{1}{2}$	227 17 19	21 34	30.1	72 $\frac{1}{2}$	71 $\frac{1}{2}$	6	
g — 4	Noon		51 8		21 22 $\frac{1}{2}$	30.0	74	75		
	1 31 31		8 22 $\frac{1}{2}$	228 21 48	20 48	30.0	74	76	6	
u — 5	Noon		52 7		20 39 $\frac{1}{2}$	30.15	77	77		
	1 24 2		8 10 $\frac{1}{2}$	229 21 0	19 54	30.05	77	76	6	
b — 7	Noon		54 28		18 51 $\frac{1}{2}$	30.1	74	71		
	3 2 32		27 29 $\frac{1}{2}$	226 3 34	18 14	30.1	74	76	6	
o — 8	Noon		52 32		18 4 $\frac{1}{2}$	30.05	74	6		
	2 38 28 $\frac{1}{2}$		21 3 $\frac{1}{2}$	223 51 22	17 45	30.1	75	75	6	
p — 9	Noon		56 12		17 41 $\frac{1}{2}$	30.25	75 $\frac{1}{2}$	75		
	2 42 50		20 37 $\frac{1}{2}$	221 47 0	17 25	30.25	76 $\frac{1}{2}$	75	6	Hazy
d — 10	Noon		56 47		17 23 $\frac{1}{2}$	30.5	77 $\frac{1}{2}$	7 $\frac{1}{2}$		
	2 31 27		16 46	219 52 0	17 17	30.05	77	77	6	
g — 11	Noon		57 12		17 16 $\frac{1}{2}$	30.1	77	79		
	2 48 9		19 22	218 17 8	17 12	30.0	77	77	6	
u — 12	Noon		57 37		17 10	30.0	77 $\frac{1}{2}$	79 $\frac{1}{2}$		
	2 0 30 $\frac{1}{2}$		7 51 $\frac{1}{2}$	217 4 10	17 14	30.1	77	78 $\frac{1}{2}$	3	
g — 13	Noon		57 49		17 14 $\frac{1}{2}$	30.1	78	80		
	2 15 29		10 6 $\frac{1}{2}$	215 31 43	17 17	30.2	79	79	6	
b — 14	Noon		58 6		17 17 $\frac{1}{2}$	30.0	78 $\frac{1}{2}$	79 $\frac{1}{2}$		
	12 16 9		9 11 $\frac{1}{2}$	214 44 46	17 20	30.15	78	77 $\frac{1}{2}$	4	
o — 15	Noon		7 50 $\frac{1}{2}$	213 46 50	17 41	30.1	78	78 $\frac{1}{2}$	6	
	2 32 37 $\frac{1}{2}$		11 46 $\frac{1}{2}$	212 43 15	17 48	30.05	78 $\frac{1}{2}$	80		
p — 16	Noon		58 15		17 46				6	
g — 17	Noon		58 41		17 39 $\frac{1}{2}$					
u — 19	Noon		9 14		17 44 $\frac{1}{2}$					
o — 20	Noon		59 33 $\frac{1}{2}$		17 44 $\frac{1}{2}$					
	11 25 43		21 41	213 5 12	17 44 $\frac{1}{2}$				6	Made in Ounipcha Bay on the N W side of the latter peninsula of Ounipcha
b — 21	Noon		59 53 $\frac{1}{2}$		17 45				6	
	11 47 10		10 50 $\frac{1}{2}$	213 9 46	17 44 $\frac{1}{2}$				6	here

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Baro- meter.	Thermoms.		No of Obs.	Remarks.
						C.	D.		
	H	°	°	°					
4 Aug. 25.	Noon.	61 36		17 24½					
12	4 55	12 47½	213 8 6	17 27				6	Point Venus W. 3 or 4 miles
26.	The Watch was carried on shore at Point Venus, and on the 27th compared with the Astronomical Clock, by which the times of equal altitudes had been noted: (See page 52) from whence I have computed that the Watch was too slow for mean time, at Point Venus, on August the 27th, at noon, by 16h. 48' 44", 7, and of course it will place Point Venus 39° 17' 35" to the Eastward of Queen Charlotte's Sound, in New Zealand. By allowing its Greenwich rate, I find that it makes Point Venus 253° 30' 36" East of Drake's Island, in Plymouth Sound; that is, 249° 14' 28" East of Greenwich.								
Mr. Bayley's computations make the Watch to be losing here at the rate of 46½" a day, and too slow for mean time, on 2 August the 31st, at noon, by 16h. 51' 51"; on which suppositions, and that the true Longitude of Point Venus is 210°. 27' 30" East of Greenwich, he has computed the following Longitudes of the Ship.									
2 Sept. 3.	Noon.	65 28½		16 45½	30,0	77	77		
12	11 12	11 52½	208 50 50		30,1	76	76	6	In Owharre Harbour, on the West side of the Island Huaheine.
4.	Noon.	65 50½		16 44½	30,1	78½	78½		
12	1 21	14 2½	208 51 42		30,0	76	77	6	
5.	12 8 44	12 10½	208 51 16		30,0	77½	79	4	
6.	12 28 11	7 27½	208 51 14		30,0	78	77	6	Off the S. end of Uliatea.
7.	Noon.	66 43		16 59½					
12	13 13	11 17½	208 8 39	16 58	30,1	77½	77	6	In Ohamaneno Harbour, on the West side of Uliatea.
9.	11 51 43	16 3½	208 22 9	16 45½	30,1	79	78	6	
12.	11 16 55½	23 50½	208 9 10	16 45½	30,2	79	80	6	
16.	4 19 14	46 11½	208 17 37½	16 47	30,1	77	78½	6	
17.	Noon.	70 41		16 50½	30,05	78	78½		
12	11 37½	10 48½	207 32 19	16 56				3	
18.	Noon.	70 39		17 15½	29,9	77	78½		
12	21 53½	9 31½	206 17 52	17 23	30,1	77	77½	3	
2	5 11	13 31½	205 53 27	17 36	29,95	77½	77½	6	
19.	Noon.	70 38½		17 39½	29,95	78	78½		
2	21 51	16 45	204 45 46	17 55	29,95	77	76½	6	
20.	Noon.	70 40		18 1½	30,0	78	80½		
2	23 29	16 42½	203 52 46	18 20	29,95	77	78	6	
21.	Noon.	70 42		18 23½	29,9	80	80		
12	28 34	10 3½	203 32 33	18 27	30,0	77	76½	6	
22.	Noon.	70 49		18 39½	30,0	78	77		
23.	Noon.	70 46		19 5½	30,0	74½	74		
2	47 22½	19 41½	200 0 36	19 22	29,9	75½	73½	6	
24.	Noon.	70 47		19 28½	30,05	76	74½		
12	37 25	11 43½	199 3 45	19 36	30,0	73½	72½	6	
25.	Noon.	70 47		19 52½	30,05	75	74½		
26.	12 42 11	13 56½	195 9 10	20 33	29,9	71	71½	5	
27.	Noon.	70 47		20 39½	29,95	72	72½		
28.	Noon.	70 46		21 3½	30,00	73	74		
	3 53 53	27 43½	190 10 29	21 25	30,0	74	72	6	

1773	Time by No 1		Altitude of the ☉ as L. L.	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermom.		No. of Obs.	Remarks
	H	"					C	D		
Sept 9	Noon		70 45		21 28 $\frac{1}{2}$	30,1	73	72		
13	7 18 $\frac{1}{2}$		13 3 $\frac{1}{2}$	189 13 36	21 27	30,15	72	70	6	
Oct 1	Noon		71 25		21 11 $\frac{1}{2}$	30,0	71	70		
	Noon		71 40		21 20 $\frac{1}{2}$	30,0	70	72		
	12 41 59		22 14 $\frac{1}{2}$	185 33 40	21 19	30,0	70	69	6	
2	Noon		72 20 $\frac{1}{2}$		21 21 $\frac{1}{2}$	30,05	71 $\frac{1}{2}$	71 $\frac{1}{2}$		At anchor under the N W side of 1 moow, or Middleburgh
	13 24 9		12 49 $\frac{1}{2}$	185 6 32	21 21 $\frac{1}{2}$	30,05	70	68 $\frac{1}{2}$	6	
4	Noon		73 6		21 4	30,05	72 $\frac{1}{2}$	72 $\frac{1}{2}$	2	At anchor off the North Point of Longa lubu, or Amsterdam
5	13 2 16 $\frac{1}{2}$		17 55	184 41 34		30,05	73	70	3	
6	Noon		73 51 $\frac{1}{2}$		21 5	29,95	74	73	2	
	6 56 45		66 6 $\frac{1}{2}$	184 44 9		30,1	72 $\frac{1}{2}$	71 $\frac{1}{2}$	10	
7	Noon		74 16		21 4 $\frac{1}{2}$	30,0	73 $\frac{1}{2}$	71 $\frac{1}{2}$		
	13 20 28 $\frac{1}{2}$		13 26 $\frac{1}{2}$	184 44 45	21 9	30,0	71 $\frac{1}{2}$	71	6	
8	Noon		72 41		22 1 $\frac{1}{2}$	29,95	75	71 $\frac{1}{2}$		
	4 14 46		31 26	184 49 0	22 21	30,05	73	70	6	
9	Noon		73 40		22 25 $\frac{1}{2}$	30,0	73	71		
	3 9 16 $\frac{1}{2}$		16 6	183 59 10	22 37	30,0	72	69 $\frac{1}{2}$	10	
	5 22 46 $\frac{1}{2}$		46 29 $\frac{1}{2}$	184 2 21	22 40	30,05	73	70	6	
10	Noon		72 43		22 45 $\frac{1}{2}$	30,05	71	69		
	5 19 34		44 40 $\frac{1}{2}$	182 40 10	23 47	30,05	70	67	3	
11	Noon		72 57		23 53 $\frac{1}{2}$	30,0	70	68		
	3 52 11		24 21 $\frac{1}{2}$	182 41 0	25 7	30,05	70	67 $\frac{1}{2}$	3	
12	Noon		71 43		25 30 $\frac{1}{2}$	30,1	71	68		
	3 56 53 $\frac{1}{2}$		24 53 $\frac{1}{2}$	180 48 52	26 53 $\frac{1}{2}$	30,2	70 $\frac{1}{2}$	68	6	Flying Clouds
13	Noon		70 25		27 11 $\frac{1}{2}$	30,2	70	68		
	3 26 51		17 58 $\frac{1}{2}$	180 7 41	28 24	30,1	70	66	3	
14	2 53 27		10 47 $\frac{1}{2}$	179 31 54	29 48	30,15	70	65 $\frac{1}{2}$	6	
15	Noon		68 6		30 15 $\frac{1}{2}$	30,2	69 $\frac{1}{2}$	67 $\frac{1}{2}$		
16	Noon		67 5		31 38 $\frac{1}{2}$	30,2	68	66 $\frac{1}{2}$		
	5 17 34		41 34 $\frac{1}{2}$	179 36 33	32 39	30,15	68 $\frac{1}{2}$	67	6	
17	Noon		66 22 $\frac{1}{2}$		32 43 $\frac{1}{2}$	30,2	69	67 $\frac{1}{2}$		
	14 3 12 $\frac{1}{2}$		8 39 $\frac{1}{2}$	179 18 0	32 50	30,15	68	65 $\frac{1}{2}$	3	
18	Noon		65 40		33 47 $\frac{1}{2}$	30,0	68	67		
19	Noon		63 54		35 54 $\frac{1}{2}$	29,85	69	65 $\frac{1}{2}$		
	3 39 50		22 16 $\frac{1}{2}$	179 33 48	37 24	29,65	65 $\frac{1}{2}$	57	6	
20	Noon		62 26 $\frac{1}{2}$		37 44 $\frac{1}{2}$	29,65	65 $\frac{1}{2}$	60		
	13 5 42		20 41 $\frac{1}{2}$	179 12 24	38 6	29,65	65	59	6	
	3 44 44		22 45 $\frac{1}{2}$	178 37 51	38 58	29,6	66	57 $\frac{1}{2}$	6	
21	Noon		61 26		39 6 $\frac{1}{2}$	29,25	64	64		New Zealand from W S W $\frac{1}{2}$ S to N W by N
	10 56 27 $\frac{1}{2}$		45 30 $\frac{1}{2}$	178 0 32	39 10	29,45	65	60	6	
	13 41 34 $\frac{1}{2}$		14 57 $\frac{1}{2}$	177 38 42	39 17	29,4 $\frac{1}{2}$	64 $\frac{1}{2}$	59	3	Table Cape due North
	2 49 41 $\frac{1}{2}$		10 54 $\frac{1}{2}$	176 37 0	39 53	29,55	62	56	6	
22	Noon		60 39		40 15 $\frac{1}{2}$	29,2	63	59		Black Head N W and Cape Turnagain S 33 W

1773	Time by No 1		Altitude of the Sun L. L.	Longitude Ball of Greenwich	Latitude of the Ship South	Barometer	Thermom		No of	Remarks
	H	"	°	"	°		C	D		
2 Oct. 22	11	33 49 ^T	39 38	176 30 10	40 30	29,2	65	57	3	{ Between Cape Turnagain and the Black Head.
	12	43 2 ¹	26 58 ¹	176 28 21	40 30	29,6	62	58	6	
5 — 23	Noon		60 22		40 53 ^T	29,55	64	56		{ Cape Turnagain N N W ' W and Flat Point S W $\frac{1}{2}$ W
	10	53 19 ¹	46 36	176 9 37	40 51	29,65	64	55 ^T	6	
	13	18 26 ¹	20 54 ¹	176 15 43	40 53 ¹	29,5	63 ^T	55	6	
0 — 24	11	12 5	43 38 ¹	175 42 51	41 30	29,4	64	60	6	{ Cape Palliser W S W $\frac{1}{2}$ W dist 8 or 9 leagues
	13	4 43 ^T	23 34	175 37 56	41 32	29,5	62	58	6	
8 — 25	Noon		59 39		42 18					{ A little hazy
	4	11 1	16 30 ^T	175 2 23	42 55	29,65	62	55	6	
8 — 26	Noon		59 45		42 32 ¹	29,6	60	54 ¹		{ Hazy
8 — 27	Noon		60 21		42 17 ^T	29,65	61	56		
	4	39 39	32 27 ¹	174 52 22 ¹	42 19	29,5	61	53	6	
14 — 28	Noon		60 40		42 18 ¹	29,25	62	56		{ A little hazy
	3	26 51 ¹	19 41 ^T	175 9 39	42 00	29,6	60	54	6	
8 — 29	Noon		61 28		41 50 ¹					{ A little hazy
	14	30 22 ^T	8 37 ¹	174 48 10	41 48 ¹	29,6	59	54 ¹	3	
5 — 30	Noon		61 44		41 53 ^T	29,55	59	60		{
0 — 31	Noon		61 26		42 31 ^T	29,7	64	64 ¹		
	14	18 47	10 50 ¹	174 57 32	42 32	29,35	57	55	6	
8 Nov 1	3	24 3 ¹	20 30	175 1 57	41 23	29,5	60	58	6	
8 — 2	Noon		62 59		41 37 ^T	29,65	61	57		{
8 — 3	Noon		63 35		41 20 ¹	29,75	60	53		
	13	27 26 ¹	20 22 ^T	174 56 46	41 18	29,65	59	54	6	
14 — 4	14	21 40 ¹	11 6 ^T	173 59 46	41 38	29,6	59	59	6	
5 — 6	Noon		64 13		41 37 ¹	29,6	54	52		{
0 — 7	Noon		66 27		39 41 ¹	29,75	57	53		
8 — 8	Noon		67 24		39 1 ^T	29,75	62	63		{ Tble Cape S W b W and Gable End Foreland N W b N
8 — 9	2	35 54	14 59 ¹	176 53 27		29,95	61	57 ¹	6	
8 — 10	Noon		68 38 ¹		38 21 ¹	29,95	61 ¹	57	2	{ In Tolaga Bay
	2	8 2	10 1 ^T	176 55 24		29,9	60 ¹	56	12	
14 — 11	Noon		68 56 ¹		38 20	29,8	61	57		{ Off the mouth of Tolaga Bay
8 — 15	2	19 1	13 26 ^T	176 56 8		29,8	62	54	6	
8 — 16	Noon		70 04		38 31 ¹	29,95	61	64		{ In Tolaga Bay
	3	24 53 ¹	26 10 ¹	176 29 1 ¹	39 34	29,8	67	62 ^T	6	
8 — 17	Noon		69 8		39 42 ¹	29,65	68	67		{
	2	53 13 ¹	20 9 ¹	176 8 57	39 52	29,8	69	63	6	
14 — 18	Noon		69 6		39 59	29,65	68	68		{
	12	14 41	33 54 ^T	176 8 17	40 2	29,65	68	69	6	
8 — 19	Noon		68 40		40 39 ¹	29,55	69	68		{ Very hazy
8 — 20	Noon		68 30		41 2 ^T	29,8	65	56		

1773	Time by No. 1	Altitude of the Sun	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometer C	Thermometer D	Barometer	Remarks
h 11 v 0	13 5, 40	15 56 $\frac{1}{2}$	174 58 30	41 00	29,8	66	55	6	
O — 21	Noon	08 41		41 5 $\frac{1}{2}$	9,75	60	55		
b — 22	3 56 27 $\frac{1}{2}$	32 56 $\frac{1}{2}$	175 52 30	41 7	29,75	66	54	4	
	Noon	08 55		41 4 $\frac{1}{2}$	30,1	62	55		
	12 49 15	28 3 $\frac{1}{2}$	175 22 42	40 58	30,1	64	56	6	Cape Turnagain W N W
									dist int 7 or 8 leagues
3 — 23	14 14 9	12 27 $\frac{1}{2}$	175 13 3	40 57	30,1	64	56	6	
	Noon	69 18		40 54 $\frac{1}{2}$	30,2	62	61 $\frac{1}{2}$		
	11 39 10 $\frac{1}{2}$	41 29 $\frac{1}{2}$	175 5 15	40 57	30,25	62	61 $\frac{1}{2}$	6	Cape Turnagain N N W
	Noon	68 48							dist int 5 or 6 leagues
4 — 25	3 2 56	21 52 $\frac{1}{2}$	173 17 19	41 36 $\frac{1}{2}$	30,3	63	61 $\frac{1}{2}$		
7 — 26	3 15 13	29 40 $\frac{1}{2}$	173 00 30	42 00	30,1	64	56	6	
h — 27	Noon	69 1		42 01	29,95	63	56	6	
O — 6	5 11 33	46 17 $\frac{1}{2}$	173 27 36	41 57 $\frac{1}{2}$	29,9	64	61		
b — 29	Noon	69 13		42 4	29,85	65 $\frac{1}{2}$	57 $\frac{1}{2}$	3	
	5 20 43	17 59 $\frac{1}{2}$	172 53 6	42 6 $\frac{1}{2}$	29,85	66 $\frac{1}{2}$	60		Hazy
o Dec 7				41 12	30,2	63	54	6	
<p>Mr Bayley compared the watch with the clock, by which the times of equal altitudes had been noted (see p 69) from whence it appears that the watch was 15 h 36 19,5 too slow for mean time on that day at noon and therefore, according to its rate and state with respect to mean time at Point Venus in October, on August the 31st, the difference of longitude between that place and this will appear to be 37° 48' 43" that is, it makes this place 172 38 16 E of Greenwich. If we reckon all the way from England, at the rate it was going, when at Greenwich, it will place Queen Charlotte's Sound 235° 44' E of Drac's Island in Plymouth Sound, or 231 28$\frac{1}{2}$ E of Greenwich.</p> <p>But farther Mr Bayley found this watch too slow for mean time at this place, June the 7th at noon by 13 h 36 58$\frac{1}{2}$, and that it was then losing, on mean time at the rate of 25,66 a day according to which, it should have been too slow for mean time on Dec 7th, by only 14 h 55 14,3, instead of 15 h 36 19,5; the difference 41 5$\frac{1}{2}$, = 10° 16' 18" in longitude, is what the watch has erred in half a year.</p> <p>The watch was found now to be losing 44,924 a day on mean time, and that it was too slow on 8 December 15th at noon by 15 h 42 17$\frac{1}{2}$, 46. Moreover, in computing the following longitudes of the ship Mr Bayley has supposed that the longitude of Queen Charlotte's Sound was 174 1 55$\frac{1}{2}$ E. of Greenwich.</p>									
4 — 2	14 16 47	13 50 $\frac{1}{2}$	174 29 45	41 20	29,8	67	65	6	
4 — 23	3 0 28	24 45 $\frac{1}{2}$	174 57 24	42 9	29,9	65	64	6	
	Noon	70 50		42 25 $\frac{1}{2}$	30,1	66 $\frac{1}{2}$	66	6	
7 — 24	12 43 30 $\frac{1}{2}$	30 22 $\frac{1}{2}$	175 19 51	42 29	30,0	66	65 $\frac{1}{2}$	6	
	Noon	70 14		43 00 $\frac{1}{2}$	30,0	69	64 $\frac{1}{2}$		
6 — 25	14 41 28	9 49 $\frac{1}{2}$	175 10 12	43 24	30,15	66	62	6	
	Noon	68 32		44 38 $\frac{1}{2}$	30,2	66 $\frac{1}{2}$	62		
O — 6	3 27 11 $\frac{1}{2}$	31 16 $\frac{1}{2}$	176 44 35	45 40	30,1	66	57	6	Hazy
	Noon	67 28		45 43	29 8	66	57		
	13 15 1	18 36 $\frac{1}{2}$	177 10 36	45 47	30,0	65	61 $\frac{1}{2}$	6	

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Thermom.		Barometer.	C.	D.	No. of Log.	Remarks.
	H	"	"	"							
♂ Dec. 28.	Noon.	65 57:		47 8 $\frac{1}{2}$	30,05	64	54				Very hazy.
	4 24 52	42 8 $\frac{1}{2}$	178 44 12	47 50	29,95	62	51 $\frac{1}{2}$	6			
U — 29.	Noon.	64 55		48 7 $\frac{1}{2}$	29,9	63	54				
	3 33 3	34 28 $\frac{1}{2}$	180 31 10 $\frac{1}{2}$	50 52	29,6	56	45	6			
1774.											
h Jan. 1.	Noon.	61 53		50 56 $\frac{1}{2}$	29,75	55	46				
	14 26 12 $\frac{1}{2}$	10 33 $\frac{1}{2}$	181 39 49	51 7	29,75	50	41	6			
	4 11 55 $\frac{1}{2}$	41 54 $\frac{1}{2}$	182 51 52	51 28	29,85	52	41	6			
☉ — 2.	Noon.	61 8		51 36 $\frac{1}{2}$	30,05	57	48				
♂ — 4.	1 48 12	25 32 $\frac{1}{2}$	191 55 51	55 15	29,65	50	49	6			
U — 5.	Noon.	56 58		55 28 $\frac{1}{2}$	29,4	62	46				
♀ — 7.	1 52 50	31 46 $\frac{1}{2}$	202 26 36	57 8	29,8	55	38	6			
h — 8.	Noon.	54 59		57 5 $\frac{1}{2}$	29,7	60	40				
	2 5 1 $\frac{1}{2}$	33 26 $\frac{1}{2}$	202 35 21	57 8 $\frac{1}{2}$	29,75	54	36	6			
☉ — 9.	Noon.	54 28		57 28 $\frac{1}{2}$	29,65	55	38				
♂ — 10.	0 39 1	26 55 $\frac{1}{2}$	212 19 28	58 14	28,8	50	35	6			
♂ — 11.	Noon.	53 21		58 18	28,65	55	36				
U — 12.	12 20 0 $\frac{1}{2}$	10 23	216 29 30	58 45	28,45	56	36 $\frac{1}{2}$	3			
U — 13.	Noon.	52 35		58 45 $\frac{1}{2}$	28,55	60	41				
♀ — 14.	0 22 17 $\frac{1}{2}$	29 31 $\frac{1}{2}$	222 19 45	58 48	29,1	51	39 $\frac{1}{2}$	6			
h — 15.	Noon.	52 10		58 48 $\frac{1}{2}$	29,0	58	38 $\frac{1}{2}$				
☉ — 16.	Noon.	51 57 $\frac{1}{2}$		58 50 $\frac{1}{2}$	29,5	57	40				
	0 11 16	32 28 $\frac{1}{2}$	231 27 32	59 3	29,65	50	39	6			
♂ — 17.	10 22 31	47 0	Pocket Watch.	59 11	{ ☉ N. E. & N. at the first Observ. Ship's course E. & N. distance run 15 miles.						
♂ — 18.	12 22 38	51 4									
	0 2 59	35 40 $\frac{1}{2}$	240 23 49	59 23	28,6	51	42	6			
h — 19.	Noon.	50 47		59 24 $\frac{1}{2}$	28,75	54	41				
	6 14 29	41 1 $\frac{1}{2}$	242 4 51	59 26	28,7	59	40	6			
	6 27 37	39 34 $\frac{1}{2}$	242 12 1 $\frac{1}{2}$	59 26		59	40	3			
	7 29 59	32 10 $\frac{1}{2}$	242 26 14	59 28	28,4	59	39 $\frac{1}{2}$	6			
U — 20.	Noon.	50 7		59 52 $\frac{1}{2}$	28,45	58 $\frac{1}{2}$	41 $\frac{1}{2}$				
♀ — 21.	Noon.	49 37		60 9 $\frac{1}{2}$	28,35	59	41 $\frac{1}{2}$				
	9 1 56 $\frac{1}{2}$	17 25 $\frac{1}{2}$	248 2 38	60 9 $\frac{1}{2}$	28,55	58	40	3			
h — 22.	Noon.	50 2		59 31 $\frac{1}{2}$	28,75	56	42				
	8 55 11	16 39 $\frac{1}{2}$	250 28 34	59 23	28,5	59	40	6			
	22 29 26 $\frac{1}{2}$	29 22	251 54 23	59 17	28,55	52	40	3			
☉ — 23.	Noon.	50 4		59 15 $\frac{1}{2}$	28,5	57	42				
♂ — 24.	Noon.	49 32		59 33 $\frac{1}{2}$	28,85	60	38 $\frac{1}{2}$				
	9 3 2	11 49	257 29 12	59 37	29,0	57	42	4			
♀ — 28.	Noon.	46 20		61 46							
	6 39 38	20 5 $\frac{1}{2}$	274 27 34	61 47	29,25	63	41	6			
	21 9 9 $\frac{1}{2}$	30 18 $\frac{1}{2}$	277 28 6	61 45							
	22 45 26	39 56	Pocket Watch.	61 50	{ ☉ N. by E. at the first Observation. Ship's course N. E. by E. distance run 10 miles.						
h — 29.	0 34 11	45 46									
	20 25 23	27 42 $\frac{1}{2}$	282 49 57	61 37	29,4	54	41 $\frac{1}{2}$	6			
☉ — 30.	Noon.	46 0		61 34 $\frac{1}{2}$	29,35	61	42 $\frac{1}{2}$				

1774	Time by No 1	Altitude of the ☉ L L	Longitude Lat of Greenwich	Latitude of the Ship	Barometer	Thermom		Remarks
						C	D	
Feb 1	8 25 1 ^r	33 54 ^r	297 40 29	60 48	9	51	41	6
2	Noon	46 0		60 44 ^r				
	17 46 9	16 55 ^r	301 34 27	60 39	29,5	54	41	6
	19 34 28 ^r	30 18 ^r	302 23 12	60 38	29,5	55	41	6
	21 07 7	39 47	Pocket					
3	22 35 51	45 11	Watch	60 36	O N 1	L	at the first Observat	Ship
6	16 33 24	13 37 ^r	314 41 37	59 30	29,2	52	35	5
7	Noon	45 59		59 16 ^r	29,2	57	41	
	19 24 58	35 28 ^r	316 56 41	58 38	29,8	54	35	4
	19 23 30	35 33		58 30	O N N	L	at first Observation	Ship's
9	Noon	46 25		57 20 ^r	29,85	57	37	
	1 16 49	24 17 ^r	336 35 34	53 55	29,4	61	39	6
16	19 53 10	46 30		54 0	O N 1	L	at the first Observ	Ship
18	20 53 10	47 2			course N E	by N	dist run 2 1/2 miles	
19	19 47 37	47 1		53 20	29,7	56	37	
20	20 37 27	47 30		53 21	29,75	57	38	6
	0 4 51	28 35 ^r	344 26 0	53 24	29,0	52	39	6
21	7 33 47	36 52	346 30 50	53 23 ^r	29,1	55	39	
	Noon	47 10		53 24	29,4	56	30	3
	1 9 26	16 52 ^r	347 47 51	53 14	30,05	53	37	6
22	14 48 59 ^r	15 27 ^r	349 6 44	53 11 ^r	29,95	57	40	
	Noon	47 01		52 46 ^r	30,0	52	39	3
24	1 22 9 ^r	13 18 ^r	349 57 6	52 51	29,25	56	39	6
	Noon	46 42		53 15	O N L	L	at the first Observation	Ship's
	0 40 51	14 43 ^r	356 30 46	53 25	29,0		38	3
	4 33 59	34 30	Pocket	53 24	29,4	49	37	6
	6 20 35	44 15	Watch	53 24				
2	4 49 26	16 13 ^r	359 53 27	53 24				
26	14 9 16	17 11 ^r	3 21 33	53 27	29,6	55	37	6
				53 33	29,55	9	37	6
				53 53 ^r	29,5	57	40	6
				53 48	28,85	57	34	6
				54 5	29,2	52	35	6
				54 4 ^r	O N 1	by L	at the first Observ	Ship
					course E S E	L	dist run 7 miles	
27	Noon	43 12	13 13 15	53 38	29,2	34	34	6
March 1	23 49 54 ^r	8 41 ^r	13 30 22	52 56	29,65	56	34	6
	21 46 1	14 58		50 45 ^r	29,9	57	38	
	21 46 1	25 56 ^r	15 3 45	50 38	29,2	50	43	3

Here Mr Bayley having completed 360° of longitude, or one revolution round the globe from the meridian of Greenwich eastward, to the meridian of Greenwich again rejected 360° and repeated February 26, in order to bring his day to correspond with that at Greenwich

A high sea

1774.	Time by No. 1.	Altitude of the Sun's L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Thermom.		Barometer.	Remarks.
	H				C.	D.		
March 7.	Noon.	46 25		48 32 $\frac{1}{2}$	29,85	57	41	
	18 47 18	45 6 $\frac{1}{2}$		48 15	29,8		40	6
	22 51 36	14 35 $\frac{1}{2}$	16 42 3	48 15	29,95	57	39	6
	12 55 47 $\frac{1}{2}$	13 24	16 39 57	47 53	30,0	38	38	8
8 — 8.	Noon.	46 57		47 36 $\frac{1}{2}$	29,75	59	40	
11 — 10.	Noon.	50 33		43 13 $\frac{1}{2}$	29,85	59	47 $\frac{1}{2}$	
	22 39 3 $\frac{1}{2}$	15 39 $\frac{1}{2}$	17 21 31	42 49	29,7	60	49	6
2 — 11.	Noon.	51 35		41 48 $\frac{1}{2}$	30,05	61	55	
	14 5 41	27 17 $\frac{1}{2}$	17 43 37	41 24	29,8	57 $\frac{1}{2}$	61 $\frac{1}{2}$	6
5 — 12.	12 25 14	9 13 $\frac{1}{2}$	17 38 31	40 23	29,6	62	64	6
10 — 13.	Noon.	52 36		39 59	29,6	65	60	
	22 19 47	17 38 $\frac{1}{2}$	18 27 0	39 37	29,55	63	61	3
	12 53 4 $\frac{1}{2}$	15 33 $\frac{1}{2}$	19 0 12	38 0	29,75	64	64 $\frac{1}{2}$	6
13 — 14.	Noon.	54 40		37 32 $\frac{1}{2}$	29,7	65	65 $\frac{1}{2}$	
	22 34 59 $\frac{1}{2}$	14 21 $\frac{1}{2}$	18 53 0	37 3	30,0	67	62	3
8 — 15.	Noon.	56 17		35 31 $\frac{1}{2}$	30,2	67	69	
	22 34 44 $\frac{1}{2}$	14 3 $\frac{1}{2}$	19 4 48	35 18	30,25	66	68	3
14 — 16.	Noon.	56 47 $\frac{1}{2}$		34 37 $\frac{1}{2}$	30,05	70	69 $\frac{1}{2}$	
	20 37 3	16 29 $\frac{1}{2}$	19 21 25	34 35	30,1	69	68 $\frac{1}{2}$	6
	12 45 33 $\frac{1}{2}$	15 21 $\frac{1}{2}$	20 0 13	34 21	30,15	68	68 $\frac{1}{2}$	6
11 — 17.	Noon.	56 48 $\frac{1}{2}$		34 12 $\frac{1}{2}$	30,0	70	69 $\frac{1}{2}$	
	22 11 10	16 54 $\frac{1}{2}$	20 35 16 $\frac{1}{2}$	34 10	30,0	70	70	6
7 — 18.	21 52 56 $\frac{1}{2}$	20 0	20 51 25 $\frac{1}{2}$		30,0	69 $\frac{1}{2}$		6
12 — 23.								6

Mr. Bayley compared the watch with his clock, by which the times of equal altitudes of the sun had been noted, (see p. 77). From whence it appears that the watch was 6 h. 45' 23" too slow for mean time at the Cape, on that day at noon, and by comparing this with the time shewn by it at Queen Charlotte's Sound, in December last, and allowing the rate it was then going at, I find that it makes the difference of longitude between this place and that 207° 20' 53", that is, it makes the Cape Town 21° 22' 48" east of Greenwich, or 2° 59' 33" greater than the truth. Computing all the way from England, at the rate it was going when at Greenwich, it puts the Cape Town 103° 21' 54" to the eastward of Drake's Island in Plymouth Sound, or 99° 5' 46" east of Greenwich, that is, 80° 42' 31" more than it ought to be.

But farther: Mr. Bayley computed that this Watch was 1 h. 55' 12", 6 too slow for mean time, at this place, on ○ November 22, 1772, and it was then losing at the rate of 20", 2727, &c. a day; consequently, it should have been too slow on March 23, 1774, by 4 h. 5' 37" 87 only, instead of 6 h. 45' 23": the difference, 2 h. 39' 45" 13 = 39° 56' 17" in Longitude, is what the Watch has erred from itself in 16 months.

Lastly, Mr. Bayley found that it was now losing 1' 3", 668 a day on mean time; and that it was too slow on ○, April the 10th, at noon, by 7 h. 4' 29" 9, on which suppositions, and that the Longitude of the Cape Town is 18° 23' East, the following Longitudes of the ship are computed.

1774-	Time by No 1		Altitude of the Sun L L	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermometers		No of Obs.	Remark
	H	M					C	D		
h April 16	20 44	12 ¹	18 42 ⁰	18 22 28	33 49	30 05	72	—	6	Capc Town S S I
o — 17	12 37	14	15 21 ¹	17 35 44	33 18	30,1	68	64	5	
o — 18	12 42	59 ¹	15 41 ¹	16 21 48	33 12 ¹	30,1	65	65	5	
o — 19	12 10	53 ¹	9 35 ¹	16 15 9	32 38	29,9	70	66	6	
o — 20	20 27	25	22 16 ¹	16 2 15	32 33 ⁰	30 1	69	71	6	
o — 21	13 5	47 ¹	19 28 ¹	14 42 0	31 26 ¹	30,05	70	63 ¹	6	
o — 22	12 21	54 ¹	10 9 ¹	13 3 58 ¹	31 13 ¹	29,65	70	63 ¹	6	
o — 23	21 57	30	7 16 ¹	13 3 48	30 16 ¹	29,85	68 ¹	66 ¹	6	
o — 24	12 6	28 ¹	7 25 ¹	13 8 15	30 08	29,95	67	64	6	
o — 25	13 36	10	23 54 ¹	9 31 18	26 23	30,0	67	64 ¹	6	
o — 26	12 31	18	10 6 ¹	8 14 22	25 6	30,15	67	66	6	
o — 27	12 20	41 ¹	7 16 ¹	6 44 0	24 57 ¹	30 0	0	69 ¹	6	
o — 28	13 28	1 ¹	20 56 ¹	5 51 22	23 47 ¹	29 9	69	70	6	
o — 29	12 20	29	9 51	4 9 5	21 53	29,95	71 ¹	75	6	
o — 30	12 29	52 ¹	7 50 ¹	3 43 1	21 45	29,95	70	68	6	
o May 1	13 6	11	15 22 ¹	3 0 2	21 21 ¹	30,0	72	77 ¹	6	
o — 2	14 22	08	30 53 ¹	2 23 36	20 51 ¹	30,1	73	76	6	
o — 3	12 31	30	7 38	2 1 22	20 22 ¹	29,95	73 ¹	70 ¹	6	
o — 4	13 3	51	14 40 ¹	1 45 24	19 39	30 0	73 ¹	69 ¹	6	
o — 5	14 15	43	29 22 ¹	1 2 53	19 32 ¹	30,0	74	74 ¹	6	
o — 6	12 54	53	11 53	0 18 33	19 27 ¹	30,0	74	76	6	
o — 7	22 42	32 ¹	6 42 ¹	0 41 48	18 57	30,05	72	73 ¹	3	
o — 8	12 54	53	11 53	0 18 33	18 37	30,0	73	70	6	
o — 9	21 44	44 ¹	22 41 ¹	2 58 3	17 40 ¹	30,0	73	73 ¹	6	
o — 10	22 11	15 ¹	18 12 ¹	4 18 18	16 49 ¹	29,95	73	75	6	
o — 11	21 44	44 ¹	22 41 ¹	2 58 3	15 48 ¹	30,0	72	74 ¹	6	
o — 12	22 11	15 ¹	18 12 ¹	4 18 18	15 41	30,05	72	69	6	
o — 13	22 11	15 ¹	18 12 ¹	4 18 18	14 36	30,15	73	70	6	

1774.	Time by No. 1. H "	Altitude of the ☉'s L. L.	Longitude West of Greenwich.	Latitude of the Ship South.	Baro- meter.	Thermom.		Wind by Obs.	Remarks.
						C.	D.		
May 10.	Noon.	58 42 $\frac{1}{2}$		13 23 $\frac{1}{2}$	30,15	76	75		
	22 3 15	21 42 $\frac{1}{2}$	5 58 34	13 8	30,15	76	71	2	
" 11.	Noon.	59 48		12 2 $\frac{1}{2}$	30,15	76	75		
	22 27 32	17 56 $\frac{1}{2}$	7 33 50	11 49	29,8	76	72	6	
	12 51 44	7 25 $\frac{1}{2}$	8 18 45	9 32	30,0	76	75	3	
" 12.	Noon.	60 52		10 43 $\frac{1}{2}$	29,95	77	77		
	13 54 55	21 8 $\frac{1}{2}$	9 48 10	9 32	30,0	77	76	6	
" 13.	Noon.	62 5		9 14 $\frac{1}{2}$	29,95	78	80		
	22 58 16 $\frac{1}{2}$	14 0 $\frac{3}{4}$	10 24 27	8 58	30,0	77	73	6	
	13 11 13	10 25	11 23 43	8 14	29,95	78	75	6	
" 14.	Noon.	63 9		7 55 $\frac{1}{2}$	30,0	79 $\frac{1}{2}$	80 $\frac{1}{2}$		
	13 30 23	14 10 $\frac{1}{2}$	12 51 7	6 51	29,8	78 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
" 15.	Noon.	64 14 $\frac{1}{2}$		6 33 $\frac{1}{2}$	29,85	80	81 $\frac{1}{2}$		
	23 19 35 $\frac{1}{2}$	12 18 $\frac{1}{2}$	13 27 32	6 16	29,9	81	81	6	
	13 14 31 $\frac{1}{2}$	9 51 $\frac{1}{2}$	14 23 32	5 30	29,85	79	78 $\frac{1}{2}$	6	
" 16.	Noon.	65 23		5 14 $\frac{1}{2}$	29,9	82	82 $\frac{1}{2}$		
	23 20 37 $\frac{1}{2}$	13 34 $\frac{1}{2}$	14 53 13	4 58	29,95	81	82	6	
	13 26 45	11 59 $\frac{1}{2}$	15 44 39	4 15	30,0	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
" 17.	Noon.	66 24		3 59 $\frac{1}{2}$	29,9	79	78 $\frac{1}{2}$		
	23 15 24	16 18 $\frac{1}{2}$	16 20 34	3 41	29,9	81	80 $\frac{1}{2}$	6	
	13 28 32	11 39 $\frac{1}{2}$	17 18 48	2 52	29,95	79	78 $\frac{1}{2}$	6	
" 18.	Noon.	67 35		2 35 $\frac{1}{2}$	30,0	79 $\frac{1}{2}$	81 $\frac{1}{2}$		
	23 27 20	15 12 $\frac{1}{2}$	17 54 2	2 20	30,0	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
	13 11 39	7 18 $\frac{1}{2}$	18 33 42	1 20	30,0	78 $\frac{1}{2}$	77	3	
" 19.	Noon.	68 59		0 58 $\frac{1}{2}$	30,0	79	80		
	23 20 11 $\frac{1}{2}$	17 58 $\frac{1}{2}$	18 45 55	0 43	30,0	80	80 $\frac{1}{2}$	6	
				North.					
" 20.	Noon.	70 6		0 21 $\frac{1}{2}$					
	21 10 19	21 1 $\frac{1}{2}$	19 20 53	0 34	29,9		80	6	
	23 47 58	12 17 $\frac{1}{2}$	19 23 0	0 35	29,9	79 $\frac{1}{2}$	80 $\frac{1}{2}$	3	
" 21.	Noon.	70 57		1 24 $\frac{1}{2}$	29,95	79 $\frac{1}{2}$	80		
	0 14 19 $\frac{1}{2}$	7 17 $\frac{1}{2}$	20 27 34	1 38	29,9	80	79 $\frac{1}{2}$	3	
	14 36 11	26 36 $\frac{1}{2}$	21 10 34	2 37	29,9	79	80	6	
" 22.	Noon.	72 15		2 54 $\frac{1}{2}$	29,95	82 $\frac{1}{2}$	82 $\frac{1}{2}$		
	14 23 46	23 48 $\frac{1}{2}$	21 48 25	3 55	30,0	80 $\frac{1}{2}$	79	3	
" 23.	Noon.	73 14		4 5 $\frac{1}{2}$	30,0	82	83		Very hazy.
	15 38 18	41 17 $\frac{1}{2}$	21 55 30	4 27	29,95			6	
" 24.	Noon.	73 34 $\frac{1}{2}$		4 36 $\frac{1}{2}$	29,95	80	79		
	13 28 1 $\frac{1}{2}$	11 43 $\frac{1}{2}$	21 50 2	5 19 $\frac{1}{2}$	29,95	80	78	6	
" 25.	Noon.	74 14		5 27 $\frac{1}{2}$	30,1	83	82		
	13 29 40 $\frac{1}{2}$	14 3 $\frac{1}{2}$	21 48 18	5 51	30,05	82	81	3	
" 26.	Noon.	74 32		5 55 $\frac{1}{2}$					
	13 35 52 $\frac{1}{2}$	14 4 $\frac{1}{2}$	21 56 8	6 0	29,9	81	77	6	
" 27.	Noon.	74 25 $\frac{1}{2}$		5 59 $\frac{1}{2}$	30,0	82 $\frac{1}{2}$	81 $\frac{1}{2}$		
" 28.	Noon.	74 38 $\frac{1}{2}$		6 21 $\frac{1}{2}$	29,9	81	77		Hazy.
	23 7 44 $\frac{1}{2}$	24 32 $\frac{1}{2}$	22 19 3	6 26	29,95	81 $\frac{1}{2}$	80	6	

ASTRONOMICAL OBSERVATIONS

1774.	Time by No. 1	Altitude of the ☉ & L. L.	Longitude West of Greenwich	Latitude of the Ship North	Baro- meter	Thermom.		No of Obs.	Remarks
	H					C	D		
O May 29.	Noon	74 45		6 37 $\frac{1}{2}$	29,95	80			
D — 30	16 20 55	53 23 $\frac{1}{2}$	21 24 15	6 36	29 95	78	79		
d — 31	Noon	74 26 $\frac{1}{2}$		6 36 $\frac{1}{2}$	30,05	80	79 $\frac{1}{2}$	3	
	23 12 50	21 59 $\frac{1}{2}$	21 24 54	6 38	30,0	79	76	6	
W June 1	11 6 28 $\frac{1}{2}$	43 7 $\frac{1}{2}$	21 21 6	6 46	30,05	79	79 $\frac{1}{2}$	6	
	Noon	74 29 $\frac{1}{2}$		6 47 $\frac{1}{2}$	30,0	81 $\frac{1}{2}$	81	6	
X — 2	13 31 7	15 30	21 0 15	7 5	30,0		79 $\frac{1}{2}$	6	
	Noon	74 41		7 7 $\frac{1}{2}$	30,0	80 $\frac{1}{2}$	81		
Z — 3	13 20 46	12 29 $\frac{1}{2}$	22 3 11	7 10	30,0	79	79 $\frac{1}{2}$	6	
	Noon	74 36		7 10 $\frac{1}{2}$	30,0	80	80		
h — 4	13 15 8	10 58 $\frac{1}{2}$	22 41 37	7 35	29,95	79	78 $\frac{1}{2}$	6	
	Noon	74 58 $\frac{1}{2}$		7 39 $\frac{1}{2}$	30,0	80	81		
o — 5	15 4 46	13 48 $\frac{1}{2}$	23 28 50	7 56	30,0	79	77 $\frac{1}{2}$	3	
D — 6	Noon	75 11 $\frac{1}{2}$		7 59 $\frac{1}{2}$	29,9	80	80		
	Noon	75 20		8 14	30,0	80 $\frac{1}{2}$	81		
	23 33 52	19 0 $\frac{1}{2}$	24 10 54	8 20	30,0	80	78	6	
d — 7	14 30 48	27 28 $\frac{1}{2}$	24 56 53	9 7	30,0	79	78	6	
	Noon	76 15		9 14 $\frac{1}{2}$	30,0	80 $\frac{1}{2}$	80		
W — 8	15 20 41	38 18 $\frac{1}{2}$	26 19 49	10 20	30,0	78	77	3	
	Noon	77 23 $\frac{1}{2}$		10 28 $\frac{1}{2}$	29,8	79	79 $\frac{1}{2}$	6	
X — 9	14 2 43	19 59 $\frac{1}{2}$	27 27 36	11 37	29,9	77	77		
	Noon	78 41		11 51 $\frac{1}{2}$	29,95	79	79 $\frac{1}{2}$	6	
Z — 10	14 1 51	19 22 $\frac{1}{2}$	28 43 22	13 3	29,95	77	76	6	
	Noon	80 2		13 18 $\frac{1}{2}$	30,05	77 $\frac{1}{2}$	77 $\frac{1}{2}$		
h — 11	13 27 55	11 13 $\frac{1}{2}$	29 56 18	14 23 $\frac{1}{2}$	29,85	77	74	6	
	Noon	81 22 $\frac{1}{2}$		14 42	30,0	76 $\frac{1}{2}$	76 $\frac{1}{2}$		
o — 12	14 6 57	19 38 $\frac{1}{2}$	31 13 57	16 3	30,0	76	74	3	
	Noon	83 0		16 23 $\frac{1}{2}$	30 0	76	76		
D — 13	0 47 49	10 56 $\frac{1}{2}$	31 45 6	16 48	30,0	76	74	3	
	Noon	84 17 $\frac{1}{2}$		17 44 $\frac{1}{2}$	30,0	76 $\frac{1}{2}$	75		
	23 52 51	24 8 $\frac{1}{2}$	32 27 18	18 0	30,0	76	74 $\frac{1}{2}$	6	
d — 14	14 14 29	21 21 $\frac{1}{2}$	32 39 47	18 58	30,0	75 $\frac{1}{2}$	74	6	
	Noon	85 43 $\frac{1}{2}$		19 13 $\frac{1}{2}$	29 95	76 $\frac{1}{2}$	77		
	0 37 15 $\frac{1}{2}$	14 47 $\frac{1}{2}$	32 44 42	19 29 $\frac{1}{2}$	30,05	76	75	6	
W — 15	13 40 29	15 15 $\frac{1}{2}$	33 4 41	20 24	30,1	76	75	6	
	Noon	87 16 $\frac{1}{2}$		20 49 $\frac{1}{2}$	30,05	76	76		
X — 16	0 17 31	10 0 $\frac{1}{2}$	33 18 14	21 10	30,0	76	75	6	
	Noon	88 47		22 21 $\frac{1}{2}$	30,15	77	77 $\frac{1}{2}$		
	23 30 42 $\frac{1}{2}$	11 17 $\frac{1}{2}$	34 3 2	22 35	30,15	76	76	6	
Z — 17	13 29 22	11 48 $\frac{1}{2}$	34 40 52	23 28 $\frac{1}{2}$	30,15	76 $\frac{1}{2}$	76	6	
	Noon	89 28		23 45 $\frac{1}{2}$	30,2	78 $\frac{1}{2}$	79		
	0 18 56	21 33 $\frac{1}{2}$	34 51 57	23 58	30,2	78	78 $\frac{1}{2}$	6	
h — 18	13 44 57	15 24 $\frac{1}{2}$	35 6 30	24 48	30,25	77 $\frac{1}{2}$	76	6	
	Noon	88 5		25 9 $\frac{1}{2}$	30 25	78	77 $\frac{1}{2}$		
o — 19	0 56 46 $\frac{1}{2}$	14 0 $\frac{1}{2}$	35 14 29	25 27	30,2	77		6	
	Noon	86 41 $\frac{1}{2}$		26 33 $\frac{1}{2}$	30,2	77	77 $\frac{1}{2}$		

ON BOARD THE ADVENTURE.

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1774.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude West of Greenwich.	Latitude of the Ship North.	Baro- meter.	Thermoms.		No. of Obs.	Remarks.
	H	°	°	°		C.	D.		
☉ June 19.	0 19 22	22 18 $\frac{1}{2}$	35 16 37	26 52	30.2	77	75	6	
	13 52 4	18 10 $\frac{1}{2}$	35 7 35	27 42	30.2	76 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
☾ — 20.	Noon.	85 16		28 0 $\frac{1}{2}$	30.3	77	76 $\frac{1}{2}$		
	13 46 43	17 38	35 6 12	28 58	30.3	77	74 $\frac{1}{2}$	6	
☽ — 21.	Noon.	83 59		29 17 $\frac{1}{2}$	30.25	79	77		
	14 3 53	21 37 $\frac{1}{2}$	35 23 12	30 34	30.3	78	75	6	
☿ — 22.	Noon.	82 21		30 55	30.3	76	75		
	13 19 31	13 7 $\frac{1}{2}$	35 31 36	32 13	30.3	76	75	6	
☿ — 23.	Noon.	80 36		32 39 $\frac{1}{2}$	30.3	76	74		
	1 19 26 $\frac{1}{2}$	11 28 $\frac{1}{2}$	35 41 19	33 2	30.2	76	74 $\frac{1}{2}$	6	
	14 0 5	21 28 $\frac{1}{2}$	36 6 45	34 2	30.35	76	72 $\frac{1}{2}$	6	
☿ — 24.	Noon.	78 50 $\frac{1}{2}$		34 23 $\frac{1}{2}$	30.45	74	73 $\frac{1}{2}$		
☿ — 25.	Noon.	77 16 $\frac{1}{2}$		35 56 $\frac{1}{2}$	30.45	74	73 $\frac{1}{2}$		
☉ — 26.	Noon.	76 0		37 50	30.35	73 $\frac{1}{2}$	72		
	23 7 31	38 8 $\frac{1}{2}$	35 50 6	37 22	30.25	74	72	6	
	14 21 1 $\frac{1}{2}$	27 26 $\frac{1}{2}$	35 15 57	37 33	30.3	73	71	6	
☾ — 27.	Noon.	75 23		37 45 $\frac{1}{2}$	30.3	74	73		
	13 49 0 $\frac{1}{2}$	22 0 $\frac{1}{2}$	34 22 5	37 51 $\frac{1}{2}$	30.1		71	6	
☽ — 28.	Noon.	75 12 $\frac{1}{2}$		37 53 $\frac{1}{2}$	30.4	73	76		
	12 51 31	12 6 $\frac{1}{2}$	33 45 34	38 31	30.2		72	6	
	13 10 23	15 36 $\frac{1}{2}$	33 44 54	38 31	30.2		72	6	
☿ — 29.	Noon.	74 22 $\frac{1}{2}$		38 40 $\frac{1}{2}$	30.35	75	74 $\frac{1}{2}$		
	14 13 2	28 26 $\frac{1}{2}$	32 43 41	39 3 $\frac{1}{2}$	30.4		73	6	
	14 43 44	34 22 $\frac{1}{2}$	32 45 36	39 4	30.4		73	5	
☿ — 30.	Noon.	73 46 $\frac{1}{2}$		39 13	30.4	74 $\frac{1}{2}$	76		
	16 15 56 $\frac{1}{2}$	53 26 $\frac{1}{2}$	30 57 20	39 57	30.4	75	73	6	
☿ July 1.	Noon.	72 49		40 6 $\frac{1}{2}$	30.3	73 $\frac{1}{2}$	74 $\frac{1}{2}$		
☿ — 2.	Noon.	72 11 $\frac{1}{2}$		40 50 $\frac{1}{2}$	30.15	72	66		Hazy.
	23 45 2 $\frac{1}{2}$	24 47 $\frac{1}{2}$	29 7 37	41 0	30.15	73	71	6	
☉ — 3.	Noon.	71 13 $\frac{1}{2}$		41 32 $\frac{1}{2}$	30.1	72	70 $\frac{1}{2}$		
	23 50 4	22 25 $\frac{1}{2}$	27 4 24	41 51	30.05	73	71 $\frac{1}{2}$	6	
	13 54 50	31 18 $\frac{1}{2}$	25 32 33	42 33	30.15	72	70	6	
☾ — 4.	Noon.	69 57		42 44	30.1	72	72		
	15 2 12 $\frac{1}{2}$	45 21 $\frac{1}{2}$	23 1 54	43 48	30.0	72	71	6	
	16 55 19	63 18							☉ S. S. E. at the first Observation.
☽ — 5.	18 20 0	68 32		44 1					Ship's course E. N. E. $\frac{1}{4}$ E. at the rate of 6 miles an hour.
	12 55 25 $\frac{1}{2}$	24 43 $\frac{1}{2}$	20 32 17	45 22	29.8	71	67	6	
	16 51 0	62 50 $\frac{1}{2}$							☉ S. S. E. at the first Observation, and S. by W. at the second. Ship's course E. N. E. $\frac{1}{4}$ N. at the rate of 7 miles an hour.
☿ — 6.	18 28 0	66 2		45 45 $\frac{1}{2}$					
	20 11 11	54 42		45 46 $\frac{1}{2}$					
	13 35 23	34 9 $\frac{1}{2}$	17 5 3	46 55	29.85	66	56	6	
☿ — 7.	Noon.	65 13 $\frac{1}{2}$		47 9 $\frac{1}{2}$	29.85	63	59		
	13 5 37 $\frac{1}{2}$	31 15 $\frac{1}{2}$	14 0 30	47 56	29.95	69	57 $\frac{1}{2}$	6	
☿ — 8.	Noon.	64 11 $\frac{1}{2}$		48 5 $\frac{1}{2}$	29.9	62 $\frac{1}{2}$	58		
	13 27 57	35 7 $\frac{1}{2}$	10 41 47	49 0	29.9	59	57	6	

1774.	Time by No 1 H	Altitude of the ☉ : L I	Longitude West of Greenwich	Latitude of the Ship North	Baro- meter	Ther- m	Wind	Remarks
h July 9	Noon	63 0½		49 9½	29.95	62	57	
	22 53 1	20 3	9 13 55	49 14	29.9	63	57	4
	13 25 49	39 2½	7 10 2	49 19	30.0	62	56½	6
	16 2 20	60 0						
☉ — 10	17 11 10	62 39		49 21½				O S at the first Observation Ship's course E S L & E at the rate of 6 miles an hour
	12 21 34½	30 27½	4 27 35	49 26	30.05	61	57	
☉ — 11	Noon	62 27	East	49 27½				
☉ — 12	22 3 52	20 59½	0 33 16½	49 38				6
	12 55 1	40 19	2 33 13	49 58				6
☉ — 14	11 23 42½	28 0½	5 54 33	50 45½	30.2	57½	56	6
☉ — 15	11 14 29	26 38½	5 59 46½		30.18	59	57	6
☉ — 17	11 14 15½	26 48½	6 12 37		30.22	57	54	6
☉ — 18	11 32 48	29 47½	6 16 53		30.24	56½	55½	5

According to the rate this Watch was going at when at Greenwich, before we left England, and the time it was set to at Drake's Island, in Plymouth Sound, July the 10th, 1772, it ought to have been too fast, for mean time at that place, when the Observation of July the 11th, 1774, was taken, by 9 35.6 Mr Bayley then found it too slow for mean time, at Spithead, by 7h 56 11", 74; the Watch, therefore, places Spithead 8h 5 47" 31, = 121 26' 50" to the East of Plymouth Sound but as it is only 3 9 15 to the East of it, the difference, 118" 11' 35", is the Watch's error in the course of the whole voyage, that is, in two years and five days.

Mr Bayley went round with the Watch, in the ship, into the river, and July 27th delivered it at the Royal Observatory at Greenwich, when he found that at 8h 55 by the Watch, the transit Clock shewed 13h 32 24" the Sun's transit, that day, was at 8h 23 53' 86 by the Clock, from whence it appears that the mean time of comparing the Watch was 5h 13 41", 5, and of course the Watch was too fast for mean time at Greenwich, by 3h 41 18.5 This Watch gained at the rate of 0", 8 a day on mean time from April 13 to April 25, 1772, before it went on the voyage, and it lost at the rate of 1 21, 89 a day, on mean time, from July 21 to the 27th, 1774, after its return.

I think the titles at the tops of the several columns will sufficiently explain themselves, but it may be necessary to remark, that the Thermometer marked C was kept in the cabin, close to the Watches, and that marked D was in the open air, upon deck, but kept shaded from the sun.

O B S E R V A T I O N S

O F T H E

MOON'S Distance from the SUN and Fixed STARS, for
determining the LONGITUDE at Sea,

Made on Board his MAJESTY'S Sloop ADVENTURE, in her late Voyage on
Discoveries towards the South.

By Mr. WILLIAM BAYLEY.

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1772	Time by No.	Distance by L from ☉ or *	Altitude of the ☉ L I o *	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship N	Thermom	Object
	H	"	"				°	
July 21		94 37 40	52 46 _r	25 12 U	9 49 _r	43 36	2	☉ and ☉
— 22		83 58 0	40 52	46 40 _r U	11 9	42 27	4	☉ and ☉
— 23		73 24 12	13 15 _r	62 12 _r L	11 34 _r	40 34	6 69	☉ and ☉
Aug 4	4 42 54	72 54 30	37 51 _r	49 23 _½ U	18 28	28 29	4 73	☉ and ☉
	6 50 28	73 35 56	10 10 _r	47 10 _½ L	17 50 _r	28 25	4 73	☉ and ☉
	9 47 6	38 49 10	31 14 _r	19 15 L	17 53	28 20	3 72	☉ and An tares
— 5	5 22 41	86 27 27	29 18 _½	45 28 _½ U	18 55 _r	27 31 _½	5 73	☉ and ☉
	5 52 53	86 36 0	22 38 _½	47 27 _½ U	18 41 _½	27 31 _½	4 73	☉ and ☉
— 10	8 32 41	43 56 7 _½	46 19	37 18 U	22 21 _r	17 24	2 78	☉ and An tares
	9 11 21		43 41				2 78	Arcturus
— 18	18 24 44	34 58 0	71 40	22 27 U	20 49 _r	10 54	1 76	☉ and Al- debaran
Sept 1	19 53 24 _½	114 6 25	13 19	50 55 _½ U	20 57 _½	10 47	3 76	☉ and ☉
	3 26 42	55 5 15	38 21 _½	76 14	5 53 _r	1 55	4 78	☉ and ☉
— 3	7 14 54	56 54 20	63 12 _½	58 35 _r L	8 49 _r	0 55	3 75 _½	☉ and α Aquilæ
— 4	3 0 58	94 57 27	47 44 _½	36 10 _½ U	9 35	0 49	6 77	☉ and ☉
— 5	3 22 26	107 11 15	42 39 _r	28 48 U	9 40 _½	0 55	3 76 _½	☉ and ☉
	5 41 22	107 53 25	7 59	58 23 _½ U	9 51 _½	0 55	3 76	☉ and ☉
— 6	4 55 35	119 52 15	18 12 _r	39 18 _r U	9 17	0 31 South	4 76	☉ and ☉
— 11	10 19 57	54 59 0	61 51	59 45 _½ L	12 39 _r	3 30	3 72	☉ and α Aquilæ
	11 20 48	44 38 20	31 1 _r	74 37 L	12 21	3 30	3 70	☉ and α Arctis
— 17	20 43 9	110 27 54	28 29 _½	10 25 _r U	17 33 _½	12 11	5 73 _½	☉ and ☉
— 19	19 52 29	87 32 48	14 54	53 17 U	19 7 _½	15 19	6	☉ and ☉
— 21	20 5 43	62 36 50	27 48 _r	55 42 _r U	20 32	18 2 _½	3	☉ and ☉
	23 19 38	61 51 0	60 7 _r	39 46 _r U	20 32 _½	18 36	3	☉ and ☉
— 22	23 22 51	48 45 52	59 50 _r	49 18 _½ U	21 28	20 1	5 73	☉ and ☉
— 23	21 37 48	35 47 9	37 7 _½	56 17 _r U	21 58 _½	21 20	4 72 _½	☉ and ☉
— 29	4 20 35	37 5 5	34 48 _r	70 35 _r L	21 40	20 14	3	☉ and ☉
Oct 1	3 45 43 _½	64 10 31	38 29	72 16 U	18 9 _½	27 27	5 69	☉ and ☉
	4 17 59	64 20 26	31 35 _r	77 58 _r U	17 59 _½	27 26	6 69	☉ and ☉
— 2	4 29 51	77 21 3	28 3 _½	70 56 U	17 13	27 38	4 69	☉ and ☉
— 3	5 12 28	90 5 22	17 16	69 23 U	15 41 _½	28 9	3 63	☉ and ☉
— 4	5 45 14 _½	102 18 27	7 59	66 33 _½ U	13 45 _½	29 7	3 58	☉ and ☉
— 5	2 58 5	113 8 57	42 44 _r	21 47 _r U	12 2 _½	28 56	6 59	☉ and ☉
	3 29 34	113 22 10	36 8	28 26 U	12 0 _½	28 53	3 59	☉ and ☉
	3 58 30 _r	113 33 32	30 2 _r	34 34 _½ U	12 16	28 52	3 59	☉ and ☉
— 16	7 50 38	72 24 35	42 26 _½	27 15 L	7 39 _½	34 36	3 57	☉ and α Aquilæ
	10 12 25	73 5 0	20 57 _½	46 54 _r L	7 30 _½	34 41	3 57	☉ and α Aquilæ

1772	Time by No 1	Diff. rec. p L from ☉ r *	Alt. stud. of the ☉ L L o *	Moon's Alt. stud.	Longitude W of Greenwich	Latitude of the Ship	Or	Time	Obj.
	H								
Oct 11	6 59 50 7 0 26	{ Apparent time, end of the Lunar Eclipse				{ By W Bayley By Capt Lurneaux			
	9 45 37	83 50 18	24 18 $\frac{1}{2}$	36 21 $\frac{1}{2}$ L	6 5 $\frac{1}{2}$	31 46	4 57		{ p and Aquari
	10 57 12	44 15 35	13 34	43 54 $\frac{1}{2}$ L	6 17 $\frac{1}{2}$	34 16	3 57		{ p and Al debaran
p — 12	10 42 31	32 23 8	12 10 $\frac{1}{2}$	35 21 $\frac{1}{2}$ L	6 40 $\frac{1}{2}$	34 53	4 57		{ p and Al debaran
					Eist				
q — 16	18 33 35 $\frac{1}{2}$	118 29 55	23 22 $\frac{1}{2}$	8 0 $\frac{1}{2}$ U	4 11 $\frac{1}{2}$	35 1	3 57		{ p and o
p — 19	14 55 54	56 19 49	35 7 $\frac{1}{2}$	28 36 $\frac{1}{2}$ L	7 58 $\frac{1}{2}$	34 32	4		{ p and Al debaran
	18 43 54	82 37 0	31 24 $\frac{1}{2}$	37 15 $\frac{1}{2}$ U	8 2 $\frac{1}{2}$	34 38	3		{ p and o
	18 57 59	82 31 15	33 20	36 1 $\frac{1}{2}$ U	7 56	34 38	5 59		{ p and o
	20 8 7	82 6 30	47 8 $\frac{1}{2}$	27 41 $\frac{1}{2}$ U	8 51 $\frac{1}{2}$	34 38	4		{ p and o
q — 20	17 26 57 $\frac{1}{2}$	70 16 54	15 6 $\frac{1}{2}$	41 32 $\frac{1}{2}$ L	8 36 $\frac{1}{2}$	35 14	6 55		{ p and o
p Nov 30	2 30 55	73 54 32	29 5 $\frac{1}{2}$	56 32 $\frac{1}{2}$ L	17 43 $\frac{1}{2}$	42 32	3 52		{ p and o
u Dec 3	3 35 37	107 56 42	17 51 $\frac{1}{2}$	39 1 $\frac{1}{2}$ U	18 35 $\frac{1}{2}$	41 46	4 16		{ p and o
q — 4	2 21 42	118 26 24	31 2 $\frac{1}{2}$	21 25 $\frac{1}{2}$ U	17 57 $\frac{1}{2}$	45 55	5 12		{ p and o
u — 17	15 23 31	81 53 30	18 3 $\frac{1}{2}$	36 20 L	24 52 $\frac{1}{2}$	55 5	3 30 $\frac{1}{2}$		{ p and o
	15 43 52	81 45 1	20 58	36 48 L	24 46 $\frac{1}{2}$	55 5	6 30		{ p and o
	16 8 24	81 35 30	24 23 $\frac{1}{2}$	37 25 $\frac{1}{2}$ U	24 50 $\frac{1}{2}$	55 5	4 30 $\frac{1}{2}$		{ p and o
1773									
p Jan 2	3 52 12 $\frac{1}{2}$	109 10 2	13 21	6 51 $\frac{1}{2}$ U	9 59 $\frac{1}{2}$	59 0	4 11 $\frac{1}{2}$		{ p and o
	4 59 1 $\frac{1}{2}$	109 32 30	15 1	19 14 $\frac{1}{2}$ U	10 21 $\frac{1}{2}$	58 56	3 31		{ p and o
q — 13	5 12 38 $\frac{1}{2}$	109 37 53	13 25	19 27 U	9 52 $\frac{1}{2}$	58 55	2 31		{ p and o
	6 31 47	112 14 21	31 58	15 43 $\frac{1}{2}$ U	39 45	64 3	4 12 $\frac{1}{2}$		{ p and o
	17 20 13 $\frac{1}{2}$	111 49 7	36 43 $\frac{1}{2}$	11 17 $\frac{1}{2}$ U	39 36	64 1	4 12 $\frac{1}{2}$		{ p and o
u — 14	17 34 38	111 41 30	38 5 $\frac{1}{2}$	9 53 $\frac{1}{2}$ U	39 40 $\frac{1}{2}$	64 1	6 32		{ p and o
	17 22 0 $\frac{1}{2}$	98 43 31	37 13 $\frac{1}{2}$	20 9 U	40 3 $\frac{1}{2}$	63 36	4 34		{ p and o
	17 35 58	98 37 29	38 27 $\frac{1}{2}$	18 54 $\frac{1}{2}$ U	39 32 $\frac{1}{2}$	63 36	5 34		{ p and o
	17 49 46	98 31 40	39 48	17 31 U	39 31 $\frac{1}{2}$	63 36	3		{ p and o
	12 20 54	53 23 37	41 23 $\frac{1}{2}$	31 10 $\frac{1}{2}$ U	51 58 $\frac{1}{2}$	56 20	2 33		{ p and o
u Feb 4	4 59 52	34 56 36	13 56	21 34 L	60 23 $\frac{1}{2}$		4 42		{ p and Al debaran
q — 6	4 57 51	61 57 22	14 18	24 33 $\frac{1}{2}$ L	62 29 $\frac{1}{2}$	48 20	4 43		{ p and Al debaran
q — 12	12 11 48	105 33 14	9 20 $\frac{1}{2}$	48 14 $\frac{1}{2}$ U	71 34 $\frac{1}{2}$	51 0	6 38		{ p and o
	14 43 25	104 31 36	32 58 $\frac{1}{2}$	40 41 $\frac{1}{2}$ U	71 51	51 1	4 48		{ p and o
q — 1	16 18 59	90 34 25	46 7	24 42 U	76 14 $\frac{1}{2}$	51 37	1		{ p and o
	16 31 17	90 24 26	17 50 $\frac{1}{2}$	21 41 $\frac{1}{2}$ U	76 18 $\frac{1}{2}$	51 37	4 38		{ p and o
q — 17	15 3 28	40 1 23	41 46	52 14 $\frac{1}{2}$ U	88 15 $\frac{1}{2}$	52 53	2 17		{ p and o
o — 28	18 9 8 $\frac{1}{2}$	74 40 22	29 32 $\frac{1}{2}$	20 57 $\frac{1}{2}$ L	122 37 $\frac{1}{2}$	50 15	2		{ p and o
	18 34 6	74 47 57	26 5	22 8 $\frac{1}{2}$ L	122 29 $\frac{1}{2}$	50 15	5 54		{ p and o
u March 4	19 15 45	120 14 2	11 21 $\frac{1}{2}$	17 5 $\frac{1}{2}$ L	134 29	44 32	4 51		{ p and o

1773	Time by No 1		Distance D L from ☉ or *	Altitude of the ☉ L L or *	Moon's Altitude	Longitude East of Greenwich	Latitude of the Ship S	No Fol	Themo	Object
	H	M								
March	4	21 19 49	38 49 8 †	23 36 †	26 32½ L	134 33½	44 20	3 51		▷ and Aldebaran
		0 12 50½	40 17 2 †	32 13½	20 52½ L	134 57½	44 18	4 50		▷ and Regulus
	7	21 12 22	37 37 18 †	17 27½	24 9½ L	142 40½	43 46	4 54		▷ and Pollux
	9	5 11 41	20 34 18 †	44 53½	25 48 L	146 47½	43 44	4 52		▷ and Spica ♀
	10	21 7 9½	44 31 04 †	24 8	11 36½ L	147 33½	43 22	8 53		▷ and Regulus
	14	11 41 18½	97 24 45 †	45 25½	18 49½ U	148 2½	43 23	3 56		▷ and ☉
	15	7 48 18	86 3 13 †	11 42½	62 52½ U	148 37½	43 33	6 53		▷ and ☉
		9 33 55½	85 27 7 †	29 45	49 44½ U	148 42½	43 30	4 54		▷ and ☉
	16	9 26 46	72 49 0 †	29 7½	58 45½ U	148 26½	42 4	6 53		▷ and ☉
	17	9 27 22	60 25 18 †	29 42½	63 35½ U	148 26½	40 41	5 54		▷ and ☉
	28	14 38 11	53 34 30 †	31 33½	31 55½ U	161 35½	40 18	4 61		▷ and ☉
		15 26 9½	53 48 39 †	23 47½	32 43 U	161 39½	40 18	6 61		▷ and ☉
		18 42 16½	48 8 9 †	21 12½	16 8½ U	161 56	40 24	5 62		▷ and Pollux
	29	14 59 20	64 40 29 †	36 35½	29 19½ U	163 29½	40 42	4 62		▷ and ☉
		15 36 15	64 50 15 †	20 20	30 42 U	163 50½	40 42	2 62		▷ and ☉
		15 52 52	64 55 16 †	17 21½	30 56½ U	163 27	40 42	3 63		▷ and ☉
	30	15 2 37	75 49 11 †	24 4	25 57½ U	165 27½	41 17	4 64		▷ and ☉
		15 31 1½	75 58 0 †	19 11½	27 55 U	165 3½	41 17	2 64		▷ and ☉
		16 14 10	76 10 2 †	11 47½	29 35½ U	165 10½	41 17	4 63		▷ and ☉
	3	16 16 39	123 42 15	4 31½	21 38 U		40 30	4 63		▷ and ☉, back Obs
		17 44 25	71 13 30 †	18 5½	31 54½ L	172 25½	40 28	4 60		▷ and Aldebaran
		21 10 12	60 40 10 †	48 15	33 15½ L	172 45½	40 26	2 59		▷ and Spica ♀
	4	15 43 3	136 25 10	9 30½	11 38½ U		41 21	6 63		▷ and ☉
		15 51 56	136 29 53	7 49	13 10½ U		41 21	5 63		▷ by the
		16 0 50	136 33 45	6 17½	14 39½ U		41 21	5 63		▷ back Obs
		18 4 51	47 50 41 †	16 21½	32 40½ L	174 9	40 25	5 63		▷ and Spica ♀
		18 31 56	43 48 4 †	19 43½	35 40½ L	173 52½	40 25	5 61		▷ and Pollux
	9	6 32 58	115 20 36 †	8 0½	26 55½ U	179 13½	43 50	6 53		▷ and ☉
		8 12 4½	114 24 30 †	18 33	9 24½ U	179 7½		1 54		▷ and ☉
	12	7 27 6	79 59 58 †	14 15½	26 30½ U	183 57½	46 17	6 51		▷ and ☉
		8 11 11	79 44 48 †	17 38½	19 58½ U	184 23½	46 18	5 61½		▷ and ☉
	26	8 57 56½	67 58 52 †	23 16	13 42 U	196 37½	43 5½	3 18		▷ and ☉
		10 42 57	107 35 15 †	16 57½	17 30½ U	199 2½	42 52	4 52		▷ and ☉
	2	14 10 26	51 2 6 †	56 6	32 30½ U	203 42½	43 1	3 48		▷ and Spica ♀

1773	Time by No. 1	Distance from L. from 0	Altitude the 0	Moon's Altitude	Longitude of Greenwich	Latitude of the Ship	Thermom.	
	H	0 *	L L or *					
July 5	17 18 55 _T	51 57 52 _T	72 58 _T	36 26 I	07 5	42 55	2 16	Antar
7	18 18 3	79 45 52 _T	67 44 _T	25 38 _T L	210 18 _T	11 51	1 19	Antar
9	4 0 42	111 26 8 _T	8 45 _T	20 37 U	115 28 _T	13 28	2 55	Antar
10	4 34 39	111 14 58 _T	13 7	14 35 _T U	214 55	42 28	3 55	Antar
11	4 11 45	99 59 24 _T	11 25 _T	21 21 _T U	217 8 _T	13 32	5 16	Antar
12	3 56 33	88 56 41 _T	10 51 _T	25 56 _T U	218 48	43 16	7 17 _T	Antar
12	5 49 38	88 15 22 _T	21 58	8 16 _T U	219 17		4 48	Antar
12	3 24 43	78 6 18 _T	7 26 _T	30 52 _T U	220 5	40 0	6 56	Antar
25	4 23 57 _T	77 49 42 _T	15 5	24 38 _T U	220 11 _T		6 56	Antar
26	9 51 36	64 49 35	23 36 _T	57 39 _T U	224 7	29 13	6 66	Antar
26	9 39 4	77 53 12 _T	25 49 _T	53 16 _T U	225 16		6 66 _T	Antar
26	9 49 5 _T	77 56 40 _T	24 13 _T	55 9 _T U	225 14 _T		3 66 _T	Antar
27	10 28 50	73 10 35 _T	17 22 _T	61 39 U	225 10 _T		3 66 _T	Antar
27	8 25 54	90 39 0 _T	36 20 _T	30 2 _T U	225 24 _T	2/ 51	6 67	Antar
27	10 58 46 _T	91 29 5 _T	12 5	61 40 _T U	225 12 _T		2 67	Antar
27	13 11 31 _T	17 7 0 _T	60 8	71 19 L	225 13 _T		3 65	Antar
28	13 34 52 _T	81 1 13 _T	17 22 _T	68 39 _T L	225 5 _T		3 65	Antar
28	9 59 38	104 41 40	23 21 _T	39 16 _T U	224 28 _T	27 42	6 67 _T	Antar
29	10 26 16	118 19 22 _T	19 14 _T	33 37 _T U	223 54	27 20	7 68	Antar
30	10 23 17	131 43 7 _T	19 11 _T	22 10 _T U	225 11 _T	26 58	4 69	Antar
31	10 56 43 _T	145 18 27 _T	12 58 _T	17 17 _T U	225 25 _T		8 67 _T	Antar
Aug 2	16 36 9	59 13 5 _T	54 18 _T	66 9 _T L	226 58 _T		4 65	Antar
3	16 37 21 _T	73 27 35 _T	32 24	54 21 _T L	227 13 _T		4 67	Antar
4	1 18 59	155 13 7 _T	5 41 _T	10 31 _T L	227 40 _T	20 49	8 76	Antar
8	3 30 40 _T	108 19 24 _T	31 52 _T	20 57 _T U	222 53 _T	17 44	6 75 _T	Antar
9	3 31 51 _T	97 17 21 _T	30 57	30 40 U	220 52	17 24	7 75 _T	Antar
11	4 20 43	97 0 52 _T	40 18 _T	20 15 U	220 54 _T	17 24	6 77	Antar
11	2 59 17	75 23 30 _T	21 43 _T	51 28 _T U	216 30		4 78	Antar
12	3 8 21	75 21 51 _T	23 38 _T	50 20 _T U	216 35		5 78	Antar
13	2 26 19 _T	64 24 38 _T	13 38	4 11 L	215 29 _T		3 79	Antar
13	2 48 20 _T	53 0 24	17 26 _T	52 18 _T L	213 19 _T	17 17	9 79 _T	Antar
14	3 44 38	5 47 13	29 31	53 28 L	213 13 _T	17 17	9 80	Antar
14	2 5 26	41 34 21	10 51 _T	43 24 _T L	211 46 _T	17 41	6 79	Antar
14	11 6 13	89 30 25	25 53 _T	62 42 _T U	210 38 _T	17 27	8	Antar
Sept 7	2 8 43	104 47 4	12 38 _T	43 29 U	208 35 _T		10 77 _T	Antar
8	3 11 37	94 23 59 _T		33 1 _T U	108 42 _T		6 78	Antar
8	3 7 6	83 29 34 _T	27 29 _T	46 49 _T U	208 33 _T		6 79	Antar
9	0 1	60 26 57 _T	40 20	52 48 _T U	208 38 _T		6 76	Antar

1773.	Time by No. 1.	Distance by 1. from S's or *.	Altitude of the S's L. L. or *.	Moon's Altitude.	Longitude East of Greenwich.	Latitude of the Ship S.	No. of Observations.	Object.
	H	"	"	"	"	"		
♂ — 21.	9 4 44	58 53 11	56 7 $\frac{1}{2}$	61 39 U.	204 18	18 25	676	♂ and ☉.
	12 10 36	56 53 26	14 13 $\frac{1}{2}$	74 35 U.	204 21 $\frac{1}{2}$	18 26	476 $\frac{1}{2}$	♂ and ☉.
♀ — 24.	10 25 20 $\frac{1}{2}$	99 31 48	42 2 $\frac{1}{2}$	37 30 U.	199 40		674 $\frac{1}{2}$	♂ and ☉.
	10 37 55	99 34 51	39 17 $\frac{1}{2}$	40 21 $\frac{1}{2}$ U.	199 38 $\frac{1}{2}$		572 $\frac{1}{2}$	♂ and ☉.
♂ — 25.	9 45 53 $\frac{1}{2}$	112 0 10	54 5 $\frac{1}{2}$	14 25 $\frac{1}{2}$ U.	197 24 $\frac{1}{2}$	19 55 $\frac{1}{2}$	574	♂ and ☉.
♂ Oct. 4.	3 37 39	135 18 54		14 30 $\frac{1}{2}$ U.	184 51 $\frac{1}{2}$	At Turnagain, Jan. 21 $\frac{1}{2}$ 4 $\frac{1}{2}$.	766 $\frac{1}{2}$	♂ and ☉.
♀ — 6.	5 25 20	112 53 41		9 52 $\frac{1}{2}$ U.	185 14 $\frac{1}{2}$		1069 $\frac{1}{2}$	♂ and ☉.
♂ — 7.	3 14 15	102 42 37	16 42	41 29 $\frac{1}{2}$ U.	185 5 $\frac{1}{2}$	21 57 $\frac{1}{2}$	671 $\frac{1}{2}$	♂ and ☉.
♀ — 8.	5 51 17	90 39 15	53 8 $\frac{1}{2}$	23 3 $\frac{1}{2}$ U.	185 20		470 $\frac{1}{2}$	♂ and ☉.
♂ — 9.	3 9 16	79 57 51	16 6 $\frac{1}{2}$	50 46 $\frac{1}{2}$ U.	184 26 $\frac{1}{2}$	22 37	1069 $\frac{1}{2}$	♂ and ☉.
	5 22 46	79 21 3	46 29 $\frac{1}{2}$	37 56 $\frac{1}{2}$ U.	184 46	22 40	670	♂ and ☉.
☉ — 10.	5 35 42	67 28 18	48 10 $\frac{1}{2}$	45 0 U.	183 7 $\frac{1}{2}$		1067 $\frac{1}{2}$	♂ and ☉.
♂ — 11.	3 43 21 $\frac{1}{2}$	55 46 34	22 23 $\frac{1}{2}$	50 16 $\frac{1}{2}$ U.	182 2 $\frac{1}{2}$		667 $\frac{1}{2}$	♂ and ☉.
	6 2 30	55 4 22	52 55 $\frac{1}{2}$	49 27 $\frac{1}{2}$ U.	181 45 $\frac{1}{2}$		663	♂ and ☉.
♂ — 20.	8 57 51	55 9 33	60 56 $\frac{1}{2}$	44 30 $\frac{1}{2}$ U.	179 39 $\frac{1}{2}$	37 47 $\frac{1}{2}$	659 $\frac{1}{2}$	♂ and ☉.
	11 58 23 $\frac{1}{2}$	56 19 40	39 43 $\frac{1}{2}$	69 52 $\frac{1}{2}$ U.	179 21	38 0	659	♂ and ☉.
♂ — 21.	10 56 27 $\frac{1}{2}$	69 30 22	45 30 $\frac{1}{2}$	53 49 $\frac{1}{2}$ U.	178 13 $\frac{1}{2}$	39 10	660	♂ and ☉.
	13 41 34 $\frac{1}{2}$	70 23 40	14 57 $\frac{1}{2}$	67 29 $\frac{1}{2}$ L.	177 59 $\frac{1}{2}$	39 17	459	♂ and ☉.
At the time of these last Observations, Table-Head in New Zealand bore due North.								
♀ — 22.	11 33 49 $\frac{1}{2}$	82 54 40	39 38	48 17 $\frac{1}{2}$ U.	176 44 $\frac{1}{2}$	40 30	357	♂ and ☉.
These were taken between Cape Turnagain and Black-Head in New Zealand.								
	12 43 5	83 19 39	26 58 $\frac{1}{2}$	58 59 U.	176 17 $\frac{1}{2}$	40 30	658	♂ and ☉.
♂ — 23.	10 53 19 $\frac{1}{2}$	95 23 10	46 56	29 53 $\frac{1}{2}$ U.	175 53 $\frac{1}{2}$	40 51	655 $\frac{1}{2}$	♂ and ☉.
	13 18 26 $\frac{1}{2}$	96 18 44	20 54 $\frac{1}{2}$	54 16 $\frac{1}{2}$ U.	176 6 $\frac{1}{2}$	40 53 $\frac{1}{2}$	655	♂ and ☉.
☉ — 24.	11 12 5	107 52 11	43 38 $\frac{1}{2}$	21 $\frac{1}{2}$ 52 U.	175 33 $\frac{1}{2}$	41 30	660	♂ and ☉.
	13 4 43 $\frac{1}{2}$	108 37 48	23 34	41 24 $\frac{1}{2}$ U.	175 22 $\frac{1}{2}$	41 32	658	♂ and ☉.
♂ Nov. 9.	2 35 55	63 33 36	14 59 $\frac{1}{2}$	41 14 U.	178 37 $\frac{1}{2}$	In Polaga Bay, Jan. 38 $\frac{1}{2}$ 21 $\frac{1}{2}$.	657 $\frac{1}{2}$	♂ and ☉.
♀ — 10.	2 8 2	50 48 22	10 1 $\frac{1}{2}$	34 12 U.	178 30 $\frac{1}{2}$		1256	♂ and ☉.
♂ — 18.	12 14 41	51 14 26	33 54 $\frac{1}{2}$	66 6 $\frac{1}{2}$ L.	177 59 $\frac{1}{2}$	40 02	659	♂ and ☉.
♂ — 20.	14 15 55	78 7 2	11 55	59 37 $\frac{1}{2}$ L.	176 14 $\frac{1}{2}$		654	♂ and ☉.
♂ — 22.	12 49 15	102 3 52	28 3 $\frac{1}{2}$	42 13 U.	176 8 $\frac{1}{2}$	40 58	656	♂ and ☉.
Cape Turnagain N. N. W. by Compass distant 7 or 8 leagues.								
	14 14 9	102 30 20	12 27 $\frac{1}{2}$	51 41 $\frac{1}{2}$ U.	176 11	40 57	656	♂ and ☉.
♂ — 23.	11 39 10 $\frac{1}{2}$	113 14 48	41 29 $\frac{1}{2}$	20 32 $\frac{1}{2}$ U.	175 51 $\frac{1}{2}$	40 57	661 $\frac{1}{2}$	♂ and ☉.
♀ Dec. 22.	14 16 47	105 55 28	13 50 $\frac{1}{2}$	41 38 $\frac{1}{2}$ U.	174 31 $\frac{1}{2}$	41 20	665	♂ and ☉.
♂ — 23.	12 43 30 $\frac{1}{2}$	116 25 53	30 22 $\frac{1}{2}$	23 48 U.	175 16 $\frac{1}{2}$	42 29	665 $\frac{1}{2}$	♂ and ☉.
1774.								
♂ Jan. 4.	2 1 4	102 9 18	27 22 $\frac{1}{2}$	29 38 U.	192 11 $\frac{1}{2}$	55 15 $\frac{1}{2}$	649	♂ and ☉.
	2 53 38	101 47 30	34 55	24 49 $\frac{1}{2}$ U.	192 5	55 17	648	♂ and ☉.
♂ — 8.	2 5 1	63 21 30	33 26 $\frac{1}{2}$	44 53 $\frac{1}{2}$ U.	202 26	57 1 $\frac{1}{2}$	639	♂ and ☉.
♀ — 19.	6 14 29	82 20 10	41 1 $\frac{1}{2}$	17 12 $\frac{1}{2}$ U.	241 37 $\frac{1}{2}$	59 26	640	♂ and ☉.
	6 27 37	82 25 30	39 34 $\frac{1}{2}$	18 13 $\frac{1}{2}$ U.	241 39	59 27	340	♂ and ☉.
	7 29 59	82 48 58	32 10 $\frac{1}{2}$	21 53 $\frac{1}{2}$ U.	241 52 $\frac{1}{2}$	59 28	639 $\frac{1}{2}$	♂ and ☉.
♀ — 21.	9 51 23 $\frac{1}{2}$	105 48 38	11 26	16 21 $\frac{1}{2}$ U.	247 32 $\frac{1}{2}$		239 $\frac{1}{2}$	♂ and ☉.

1774	Time by No 1 H	Distance D L. from G or *	Altitude of the ☉ L. or *	Moon's Altitude	Longitude East of Greenwich	Latitude of the Ship S	No. of Obs	Themon	Obj. as
○ Jan 30	12 36 17	41 30 37	21 43½	17 51½ L	286 19½	61 28	4 41½		☉ and Spica ♈
☿ Feb 2	17 46 9	111 40 8	16 55½	30 41 U	301 13	60 39	6 41		☉ and ☉
	19 34 28	110 51 58	30 18½	20 49 U	301 49½	60 38	6 41½		☉ and ☉
♂ — 22	1 12 56½	125 7 25 +	14 41	8 17 U	349 56½	53 14	6 39		☉ and ☉ back Obs
♀ — 25	3 9 41	70 11 33 +	15 46½	13 51½ L	358 34½	53 25	3 38		☉ and Al debar in
	4 41 9	63 4 38 +	15 3	0 55 L	359 0½		3 38		☉ and Spica ♈
♂ — 26	Having completed 360° of Longitude, and of course gained a day, it was here re- tified by repeating this								
☿ March 2	12 38 27	118 44 33	8 44½	38 29½ U	11 42½	53 44	3 34		☉ and ☉
	14 20 38½	118 0 15	23 30½	25 45½ U	11 29½	53 38	6 34		☉ and ☉
○ — 6	17 28 57	63 32 58 +	46 2½	34 31½ U	13 46½	48 15	6 40		☉ and ☉
☿ — 7	18 47 18	62 54 28 +	45 6½	22 2 U	13 58½	48 15	6 40		☉ and ☉
	12 55 47½	52 5 50	13 24	53 7½ L	13 56½	47 53	6 38		☉ and ☉
♂ — 15	22 26 0½	37 30 58 +	15 42½	13 35 L	17 10½		4 69½		☉ and ☉
	0 45 0½	32 49 16 +	28 20½	10 0½ L	16 39		6 68		☉ and Al debar in
☿ — 16	19 55 52½	48 12 26	43 36	41 33½ U	16 56	34 35	6 68½		☉ and ☉
♂ — 17	20 49 32	59 37 50	33 5	39 54½ U	17 59½	The Table Mountain E by S 6 leagues.			☉ and ☉
	22 11 10	59 59 14	16 54½	38 56 U	17 48½	34 10	6 70		☉ and ☉
♀ — 18	21 52 56½	70 54 59	20 0	38 46 U	18 22	In the Mouth of Table Bay			☉ and ☉
☿ April 20	20 27 25	106 29 56	22 16½	18 50½ U	15 58	32 28	6 64		☉ and ☉
♀ — 22	23 29 33	36 11 21 +	21 22½	38 32½ U	13 17	30 0	6 63		☉ and Spica ♈
	23 48 13	54 47 32 +	28 47½	41 39½ U	13 29½		6 63		☉ and Pollux
♀ — 29	13 13 29½	125 32 28 +	17 8½	34 35 U	3 28½		6 69½		☉ and ☉ back Obs
♂ — 30	15 7 52	124 36 45 +	39 25½	9 22½ U	3 45½		6 71½		☉ and ☉
	12 59 46½	112 4 0½ +	14 4	51 9½ U	2 51½		6 69½		☉ and ☉
○ May 1	14 23 20½	111 30 5 +	31 17½	32 8½ U	2 42		5 74		☉ and ☉
	14 39 47	98 6 52	34 13½	41 4 U	2 6½	20 30	6 70½		☉ and ☉
♂ — 2	15 36 7	97 37 2	43 59	28 13½ U	1 58	20 29	4 71½		☉ and ☉
♀ — 3	12 56 46	85 40 34	13 7½	76 5½ U	1 19½	19 38	6 69½		☉ and ☉
	12 33 23	73 1 58 +	8 8½	78 45½ L	0 53½		6 70		☉ and ☉
♂ — 5	19 25 52	58 17 45 +	45 20½	8 20 U	West				
	16 21 7	47 28 30 +	50 18½	60 13½ U	0 14		3 71½		☉ and ☉
♀ — 13	17 53 13	42 55 27 +	62 32½	32 54½ U	1 10		6 72½		☉ and ☉
○ — 15	20 59 2	54 43 19 +	43 19½	59 30 U	11 58½	7 59	6 75		☉ and ☉
	23 27 17	66 22 5	11 58	68 8 L	14 32	6 25	6 81½		☉ and ☉
					16 4	4 55	2 84½		☉ and ☉

ON BOARD THE ADVENTURE.

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1774.	Time by No. 1.		Distance D's L. from ☉'s or *.		Altitude of the ☉'s L. or *.		Moon's Altitude.		Longitude West of Greenwich.		Latitude of the Ship S.		No. of Obs.	Thermom.	Objects.		
	H	"	"	"	"	"	"	"	"	"	"	"					
3 May 17.	23	24	26	77	40	39	14	13	70	40	U.	17	29½	3	40	679½	☿ and ☉.
4 — 18.	23	14	36	89	12	18	18	4½	63	5½	U.	19	19½	2	21	680½	☿ and ☉.
4 — 19.	23	20	11	101	5	55	17	58½	54	42	U.	20	3½	0	43	680½	☿ and ☉.
2 — 20.	21	10	19	113	17	2	21	1½	41	1½	U.	20	38½	0	34	680	☿ and ☉.
	1	59	17	26	32	28	57	28½	82	19	U.	20	34½	0	49	378½	☿ and Spica ♉.
4 — 26.	6	26	6	39	46	5	34	37	54	10	L.	24	35½	6	2	476	☿ and α Aquilæ.
	6	38	42	65	13	7	43	18½	56	19½	L.	24	28½			476	☿ and Spica ♉.
5 — 28.	10	38	17½	51	27	27	22	35½	65	2½	L.	25	20½	6	34	575	☿ and Antares.
	11	5	9	53	43	0	58	0½	63	16	U.	25	9½			575	☿ and α Pegasi.
The apparent time of this last Observation was got from the altitudes of Antares.																	
3 — 31.	14	53	39	89	10	10	33	59½	56	22½	U.	24	56	6	56	479	☿ and ☉.
	16	3	51	88	45	37	49	59	40	11½	U.	25	3½	6	56	680	☿ and ☉.
4 June 1.	13	31	7	77	14	20	15	30	79	44½	L.	25	18½	7	5	679½	☿ and ☉.
4 — 2.	15	8	24	64	51	40	37	13½	77	25½	U.	25	45	7	11	482	☿ and ☉.
	16	2	23	64	36	20	49	22½	65	3½	U.	25	54	7	11	682	☿ and ☉.
2 — 3.	14	44	25	53	16	52	31	28	83	36	L.	26	32½	7	36	280	☿ and ☉.
3 — 12.	21	37	27	37	13	7	54	7	88	5½	U.	34	52½	16	34	475	☿ and ☉.
	2	36	31½	26	21	32	47	29½	26	2½	L.	35	3½			674½	☿ and Regulus.
3 — 13.	0	11	23½	48	59	16	19	58½	66	57½	L.	35	53			675	☿ and ☉.
	2	38	1	67	48	45	61	36½	32	45½		35	33½			674½	☿ and Spica ♉.
3 — 14.	0	16	28½	60	20	47	19	20½	74	8½		36	24½	19	29	475	☿ and ☉.
	2	44	32½	55	30	11	60	17½	40	49½	L.	36	17½			575	☿ and Spica ♉.
4 — 15.	21	25	59	71	8	5	58	38½	49	45½	U.	36	43½	21	8½	675½	☿ and ☉.
4 — 16.	23	15	2½	83	31	44	34	42½	59	54½	U.	37	36½	22	33	577	☿ and ☉.
	3	24	6	30	10	7½	57	10½	56	3½	U.	37	35			676	☿ and Spica ♉.
2 — 17.	22	58	34½	95	38	31	39	16½	43	46½	U.	38	39½			679	☿ and ☉.
	3	12	47	17	3	11	15	18½	57	37½	L.	38	18			677	☿ and Spica ♉.
	3	55	21	37	28	40	26	20	50	19½	L.	38	21			577	☿ and Regulus.
	4	17	48½	62	27	22	35	32½	45	58½	L.	38	33½			677	☿ and Antares.
5 — 18.	0	56	45½	108	54	43	14	0½	52	9½	U.	39	15½	25	27	677	☿ and ☉.
	3	45	42	49	11	06	31	13½	54	49½	L.	39	21½			576	☿ and Antares.

ASTRONOMICAL OBSERVATIONS

1774	Time by No. 1	Distance from ☉ or ♀	Altitude of the ☉ or ♀	Moon's Altitude	Longitude West of Greenwich	Latitude of the ship S	No of Obs	Thermom	Objects
June 19	22 38 44	120 58 48	41 11	13 46 U	39 18½	26 44	6	77½	☉ and ☉
	5 6 29	34 56 49 †	36 28	45 56, L	39 10½	17 6	5	75½	☉ and Antares
— 20	0 24 17	135 11 29	21 21, r	21 18 U	38 49½	28 11	6	77	☉ and ☉ back Obs
— 21	0 55 32	149 13 3	15 1, r	13 57½ U	39 19	29 40	6	76	☉ and ☉ back Obs
	5 29 35	58 48 48 †	38 8½	43 8, L	39 30		3	74½	☉ and ♀ Aquilæ
	5 48 26	42 6 26 †	28 16½	42 49, r L	39 35½		3	74½	☉ and Spica ♀
— 23	5 7 15	72 28 8 †	30 55½	28 23½ L	40 36½		4	74	☉ and Spica ♀
— 27	13 32 1	119 43 52 †	18 53, r	32 48 U	40 10½	37 51½	6	71	☉ and ☉
— 28	13 49 0	119 37 3	22 0, r	30 19, r U	40 17½	37 51½	6	71	☉ and ☉
— 28	12 51 31	107 12 40	12 6½	44 47, r U	39 47½	38 31	6	72	☉ and ☉
— 29	13 10 27	107 6 33	15 36, r	43 26 U	39 50½	38 31	6	72	☉ and ☉
— 29	14 13 2	94 27 12	28 26½	41 59, r U	39 17½	39 3½	6	73	☉ and ☉
— 30	14 43 44	94 16 48	34 22, r	41 15 U	39 12½	39 4	6	73	☉ and ☉
— 30	16 4 40	81 55 35	51 22, r	37 28½ U	37 34	39 57	6	73	☉ and ☉
July 2	18 10 52½	58 23 22½ †	70 32½	33 55½ U	34 18½		4	72	☉ and ☉
— 3	13 43 11	48 39 58	29 9	56 28½ U	33 0, r	42 32	6	70	☉ and ☉
— 4	14 21 5 4½	65 28 23	20 31½		1 10, r	Spithead	6	56	☉ and ☉

*** It must here be observed, that all altitudes are put down as they were observed with Hadley's Sextant, from the ship's deck and consequently are to be corrected for the semi diameter of the object, the refraction, and dip of the horizon, which, on board the Adventure, was about 3 50. The lower limb of the Sun was always observed; but as this could not be the case with respect to the Moon, I have distinguished these Observations, where the lower limb was observed by the letter L, and those where the upper limb was observed by the letter U. Where the character † occurs in the column of distances, the apparent time at the ship was got from the altitudes of the Sun taken next immediately preceding the distances, and of course the longitude put down is the longitude of the ship at the time when those altitudes were taken. The character ‡ signifies that the apparent time at the ship was got from the altitudes of the Sun next immediately following. Where neither of these are found, the time was obtained from the altitudes of the Sun or Star taken with the distances.

A Z I M U T H S

O F T H E

S U N ' s C E N T E R ,

Taken with an A Z I M U T H C O M P A S S ,

T O G E T H E R W I T H

The A L T I T U D E S of his L O W E R L I M B ,

Taken at the same Time with H A D L E Y ' s S E X T A N T ,

For determining the Variation of the M A G N E T I C N E E D L E .

By Mr. W I L L I A M B A Y L E Y , and others,

On Board his M A J E S T Y ' s Sloop A D V E N T U R E .

ASTRONOMICAL OBSERVATIONS.

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1772.	Altitude of the Sun's L. L.	Magnetic Azimuth of the Sun's Center.	Variation West.	Longitude	Latitude North.	Longitude West.	Observers.	Remarks.
July 18.	13 56 $\frac{1}{2}$	N. 51 34 W.	22 21	3 46 33	7 50			
19.	18 46 $\frac{1}{2}$	S. 77 41 $\frac{1}{2}$ E.	22 14	3 40 43	11 15			
20.	10 22 $\frac{1}{2}$	N. 45 23 W.	24 15	1 39 30	11 52			
Aug. 3.	13 51 $\frac{1}{2}$	N. 58 17 $\frac{1}{2}$ W.	19 33	4 29 14	17 30			
4.	Amplit.	N. 37 45 W.	18 20	2 18 28	18 5			
5.	11 2 $\frac{1}{2}$	N. 59 58 $\frac{1}{2}$ W.	16 45	3 27 28	18 30			
6.	12 46	N. 91 47 $\frac{1}{2}$ E.	14 9	4 24 42	19 20			
7.	8 21 $\frac{1}{2}$	N. 62 20 W.	13 42	3 23 41	19 35			
8.	Amplit.	N. 34 0 W.	16 52 $\frac{1}{2}$	1 21 48	20 10			
9.	18 40 $\frac{1}{2}$	N. 92 45 E.	12 58	3 20 42	20 40			
10.	16 27 $\frac{1}{2}$	N. 62 46 $\frac{1}{2}$ W.	16 16	3 20 0	21 0			
11.	18 46 $\frac{1}{2}$	N. 69 5 W.	9 11 $\frac{1}{2}$	2 12 48	20 45			
12.	15 29	S. 88 32 $\frac{1}{2}$ E.	9 16	2 10 50	19 40			
13.	13 38	N. 68 41 $\frac{1}{2}$ W.	12 2	3 6 20	14 30			
14.	27 34 $\frac{1}{2}$	N. 69 6 $\frac{1}{2}$ W.	12 10	3 4 9	10 46			
15.	13 6 $\frac{1}{2}$	S. 82 12 $\frac{1}{2}$ E.	16 29	4 3 20	8 39			
16.	9 47 $\frac{1}{2}$	N. 96 33 $\frac{1}{2}$ E.	14 50	3 2 47	6 55			
17.	17 13 $\frac{1}{2}$	N. 98 7 $\frac{1}{2}$ E.	16 24	2 2 4	5 40			
Sept. 1.	16 52 $\frac{1}{2}$	N. 95 20 E.	12 48	3 1 29	6 22		Mr. Fannin.	
2.	14 39 $\frac{1}{2}$	N. 97 7 $\frac{1}{2}$ E.	14 8	4 0 49	9 20			
3.	19 37	N. 70 52 $\frac{1}{2}$ W.	12 10	4 0 50	9 36			
4.	13 26	N. 69 6 $\frac{1}{2}$ W.	14 29	3 0 57	9 52			
5.	Amplit.	N. 69 0 W.	14 32	1 0 56	9 45			
6.	19 1	N. 99 25 E.	15 47	3 0 40	9 20			
7.	13 29 $\frac{1}{2}$	N. 70 55 E.	13 0	3 0 31	9 17			
8.	17 45	S. 80 50 E.	14 56	3 0 10	9 35			
9.	13 19	S. 81 25 E.	14 1	5 0 36	10 27			
10.	17 30	S. 81 39 E.	13 51	4 1 40	11 5			
11.	14 58	S. 82 15 E.	13 1	2 2 46	11 20			
12.	13 20 $\frac{1}{2}$	N. 75 33 $\frac{1}{2}$ W.	9 27	3 4 22	13 58			
13.	14 47	N. 73 27 $\frac{1}{2}$ W.	11 33	2 6 43	14 37			
14.	Amplit.	N. 76 0 W.	10 56	1 6 43	14 37			
15.	11 14	N. 75 45 W.	7 55	1 9 54	15 57			
16.	17 49 $\frac{1}{2}$	N. 78 35 $\frac{1}{2}$ W.	5 30	3 14 9	18 42			
17.	Amplit.	N. 84 30 W.	4 23	1 14 10	18 43			
18.	20 17 $\frac{1}{2}$	S. 87 15 E.	4 29	3 18 22	20 30			
19.	Amplit.	S. 86 15 E.	2 9	1 23 55	22 50			
20.	Amplit.	N. 92 30 E.	2 30	1 24 28	22 45			
21.	Amplit.	N. 94 0 E.	1 32	1 25 17	22 30			
22.	11 50	S. 88 40 E.	1 52	2 25 18	22 30			
Oct. 1.	14 39 $\frac{1}{2}$	S. 82 53 W.	3 44	4 27 28	18 0			
1773.					East.			
Jan. 6.	14 11	S. 47 20 E.	22 30	5 60 26	27 30			
7.	18 25 $\frac{1}{2}$	N. 75 30 W.	25 47	3 62 14	34 40		Mr. Fannin.	
8.	17 46 $\frac{1}{2}$	N. 77 35 W.		4			Mr. Bayley.	A compass made by Gregory.

ASTRONOMICAL OBSERVATIONS

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉ & Center	Variation West	Z	Latitude South	Longitude East	Observers	Remarks
O Jan 10	18 25 $\frac{1}{2}$ 17 46 $\frac{1}{2}$	N 74 6 $\frac{1}{2}$ W N 75 30 W	27 35	3 4	62 14	34 40	Mr Bayley Mr Fannin	A Knight's compass made by Adams
Mr Bayley remarks, that the four preceding Observations were made in consequence of their finding that the variations, observed on board the Resolution, differed from those observed on board the Adventure; and he says that Knight's Compass stood on the fore part of the quarter deck, and that made by Gregory on the poop								
D — 11	17 39 $\frac{1}{2}$ 8 56 $\frac{1}{2}$	N 75 45 W S 32 0 E	27 17 26 14	2 5	63 40 64 15	35 40 37 0	Mr Fannin C Furneaux Mr Kempe	Very good Good also Gregory's Compass Knight's ditto
8 — 12	19 44 $\frac{1}{2}$	N 72 17 $\frac{1}{2}$ W	26 3	7	64 12	37 10		
H — 13	16 54	S 45 15 E	31 5	2	64 4	39 30		
U — 14	16 9	S 103 45 W	28 41	3	63 57	39 35		
U — 14	14 11	S 103 0 W	31 30	3	63 57	39 35		
b — 16	15 13	S 103 22 $\frac{1}{2}$ W	29 43 29 49 28 51	4 6	65 0 60 24	40 3		
8 — 22	20 2 $\frac{1}{2}$	S 53 8 $\frac{1}{2}$ E	33 0	6	60 24	17 40	Mr Kempe C Furneaux Mr Fannin	Very good
H — 27	15 5	S 49 6 $\frac{1}{2}$ E	33 30	3	55 5	52 10		
8 Feb 2	11 12 $\frac{1}{2}$	S 45 26 $\frac{1}{2}$ E	30 55	8	48 43	58 53		
U — 4	16 19 $\frac{1}{2}$	N 64 10 W	32 28	3	49 37	56 57		
8 — 5	18 37 $\frac{1}{2}$	N 69 18 $\frac{1}{2}$ W	31 22 8 55 28 55 29 10 28 55	3 4 4 5	49 37 48 32 48 32 48 9 48 9	56 57 60 20 60 20 61 22 61 30		
b — 6	7 34	N 75 23 $\frac{1}{2}$ W	28 55	5	48 9	61 22	Mr Kempe	Great motion Good
O — 7	18 23	N 69 17 W	28 48	4	48 9	61 30		
8 — 12	16 3 $\frac{1}{2}$	S 49 21 E	28 1	5	49 7	63 30		
O — 14	15 37 $\frac{1}{2}$	N 58 47 W	32 3	3	51 0	71 30		
U — 18	9 53 $\frac{1}{2}$	S 47 4 $\frac{1}{2}$ E	32 15	5	51 50	76 35		
U — 18	8 33 $\frac{1}{2}$	S 51 23 $\frac{1}{2}$ E	35 14	4	52 0	78 28	Mr Kempe	Great motion
b — 20	13 15 $\frac{1}{2}$	S 59 59 $\frac{1}{2}$ E	31 40	3	52 52	91 48		
O — 21	16 16	N 56 28 $\frac{1}{2}$ W	30 11	4	52 20	99 23		
8 — 23	3 19	N 76 40 W	29 11	4	52 8	100 6		
U — 23	3 19	N 76 40 W	24 46	6	52 16	105 10		
U — 24	23 4	N 65 0 W	25 17	5	52 16	105 18	Mr Kempe	Great motion
U — 25	15 0	N 65 25 W	22 22	1	52 2	107 27		
U — 25	15 0	N 65 25 W	20 21	1	51 32	111 12		
U — 25	15 23	S 72 11 $\frac{1}{2}$ E	21 4	5	51 32	111 20		
b — 27	2 42	N 81 6 $\frac{1}{2}$ W	23 27	4	51 21	113 5		
O — 28	11 54 $\frac{1}{2}$	S 81 6 $\frac{1}{2}$ E	15 25	3	50 34	118 48	Mr Kempe	Great motion
U March 3	18 18	N 73 48 W	15 50	5	50 34	118 54		
U — 3	13 21 $\frac{1}{2}$	S 91 29 E	11 18	4	49 30	124 17		
U — 5	20 39 $\frac{1}{2}$	N 75 15 E	6 26 3 9 Half	5 5 4	45 58 45 17 43 46	130 50 131 25 138 42		
8 — 5	20 39 $\frac{1}{2}$	N 75 15 E	2 5	4	43 46	138 42		

ON BOARD THE ADVENTURE.

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1773.	Altitude of the Sun's L. I.	Magnetic Azimuth of the ☉'s Centur.	Vari- ation East.	Z. No.	Latitude South.	Longitude East.	Remarks.
March 6.	10 50 $\frac{1}{2}$	S. 94 56 E.	1 36	5	43 57	141 0	Great motion.
☉ — 7.	8 51 $\frac{1}{2}$	N. 90 3 $\frac{1}{2}$ W.	1 33	3	43 46	142 12	
☽ — 9.	23 6 $\frac{1}{2}$	N. 79 47 $\frac{1}{2}$ W.	7 6	9	43 42	145 20	
	Amplit.	S. 77 10 W.	7 2	1	43 42	145 30	
☽ — 10.	25 26	N. 58 40 E.	10 34	4	43 22	147 30	} In Adventure Bay.
☽ — 15.	11 20 $\frac{1}{2}$	S. 89 8 $\frac{1}{2}$ W.	9 6	3	43 23	147 30	
☽ — 16.	22 19 $\frac{1}{2}$	N. 62 22 $\frac{1}{2}$ E.	7 45	2	42 5	148 41	
☽ — 17.	5 52 $\frac{1}{2}$	S. 86 43 $\frac{1}{2}$ W.	6 57	3	41 10	147 50	
	8 38 $\frac{1}{2}$	N. 74 51 E.	8 45	5	40 57	147 48	
☽ — 19.	13 11	N. 72 2 $\frac{1}{2}$ E.	6 58	2	39 15	149 46	
☽ — 20.	11 39 $\frac{1}{2}$	S. 91 38 $\frac{1}{2}$ W.	8 14	6	39 22	150 40	
☽ — 24.	21 12 $\frac{1}{2}$	N. 56 53 $\frac{1}{2}$ E.	11 45	3	39 16	157 13	
☽ — 25.	9 6 $\frac{1}{2}$	S. 88 56 $\frac{1}{2}$ W.	11 18	4	39 26	158 7	
	7 49 $\frac{1}{2}$	N. 69 45 E.	10 41	4	39 54	159 15	
☽ — 26.	13 6 $\frac{1}{2}$	N. 86 15 W.	10 53	8	40 13	160 14	
☽ — 27.	8 55 $\frac{1}{2}$	N. 88 45 W.	10 13	9	40 16	161 16	
☉ — 28.	14 11	N. 84 9 $\frac{1}{2}$ W.	11 5	6	40 19	161 40	
	9 15 $\frac{1}{2}$	N. 66 25 E.	10 55	6	40 32	162 41	
☽ — 30.			12 41	3	41 17	165 16	
☽ April 3.	6 35	N. 64 34 $\frac{1}{2}$ E.	12 12	5	40 18	173 10	Off Cape Farewell.
☉ — 4.	4 53 $\frac{1}{2}$	N. 51 53 E.	15 2	5	41 2	174 0	In Cook's Straits.
☽ — 5.	9 23	N. 87 12 W.	14 3	7	40 55	174 1	In Admiralty Bay.
May.	Q. Charlotte's Sound.		13 31 $\frac{1}{2}$	8	41 6	174 1 $\frac{1}{2}$	
☽ June 7.	5 20 $\frac{1}{2}$	N. 39 45 E.	13 1	4	41 37	174 30	Off Cape Palliser.
☽ — 21.	10 44 $\frac{1}{2}$	N. 30 14 E.	10 34	5	44 30	196 17	
☽ — 22.	10 8 $\frac{1}{2}$	N. 52 55 W.	10 59	5	44 32	196 47	
☉ — 27.	12 27 $\frac{1}{2}$	N. 29 56 $\frac{1}{2}$ E.	10 4	4	42 29	197 55	Gregory's Compass.
	13 45 $\frac{1}{2}$	N. 28 36 $\frac{1}{2}$ E.	10 10	4	42 29	197 55	Knight's Compass.
☽ — 28.	13 8 $\frac{1}{2}$	N. 29 31 $\frac{1}{2}$ E.	10 23	6	42 40	198 50	
☽ — 29.	10 37 $\frac{1}{2}$	N. 33 20 $\frac{1}{2}$ E.	9 21	7	42 56	200 09	
☽ July 1.	10 32 $\frac{1}{2}$	N. 53 36 $\frac{1}{2}$ W.	9 58	7	43 6	202 35	
☽ — 2.	6 16 $\frac{1}{2}$	N. 39 18 E.	9 51	5	43 9	204 43	
☽ — 6.	6 13 $\frac{1}{2}$	N. 59 36 $\frac{1}{2}$ W.	7 56	8	41 52	208 35	
☽ — 8.	12 0	N. 35 45 E.	7 37	4	42 33	212 15	
☉ — 11.	7 41	N. 55 16 W.	6 1 $\frac{1}{2}$	4	43 28	217 41	
☽ — 12.	Amplit.	N. 64 30 W.	5 23	1	43 7	219 31	
☽ — 13.	4 42 $\frac{1}{2}$	N. 60 29 $\frac{1}{2}$ W.	6 24	6	42 50	220 38	
☽ — 17.	7 29 $\frac{1}{2}$	N. 49 49 E.	5 43	5	38 4	225 10	
☉ — 18.	8 58 $\frac{1}{2}$	N. 59 31 $\frac{1}{2}$ W.	5 13	8	37 42	225 30	
☽ — 19.	9 8	N. 61 4 $\frac{1}{2}$ W.	5 38	4	36 20	225 33	
	5 31	N. 52 5 $\frac{1}{2}$ E.	6 33	5	36 41	225 37	
☽ — 22.	5 51 $\frac{1}{2}$	N. 69 3 $\frac{1}{2}$ W.	5 59	7	30 46	225 0	
	6 57 $\frac{1}{2}$	N. 56 19 $\frac{1}{2}$ E.	5 43	7	29 33	224 5	
☽ — 26.	10 17 $\frac{1}{2}$	N. 66 26 $\frac{1}{2}$ W.	5 31	6	28 34	224 15	
	9 37 $\frac{1}{2}$	N. 55 52 $\frac{1}{2}$ E.	6 0	5	28 0	225 5	
☽ — 29.	12 36 $\frac{1}{2}$	N. 66 17 $\frac{1}{2}$ W.	5 33	6	27 20	223 52	
	5 38 $\frac{1}{2}$	N. 70 55 W.	5 29	5	27 20	223 56	

1773	Alt of the of the	Magnetic Azi m th of the ute	Vari- tion East	Z 2	Latitude South	Longitude East	Remarks
July 30	1 46 $\frac{1}{2}$	N 66 57 $\frac{1}{2}$ W	5 6	7	26 57	224 54	
h — 31	6 11 $\frac{1}{2}$	N 71 13 W	6 23	5	6 9	225 15	
O Aug 1	1 41 $\frac{1}{2}$	N 57 38 $\frac{1}{2}$ E	6 17	6	23 27	226 18	
D —	5 22 $\frac{1}{2}$	N 62 54 $\frac{1}{2}$ E	5 12	6	22 25	226 55	
d — 3	6 40 $\frac{1}{2}$	N 72 36 $\frac{1}{2}$ W	4 29	6	21 59	227 3	
h — 4	8 7 $\frac{1}{2}$	N 72 44 $\frac{1}{2}$ W	4 54	7	21 14	227 18	
h — 5	6 5 $\frac{1}{2}$	N 73 22 $\frac{1}{2}$ W	4 6	7	20 28	227 57	
d — 10	Amplit	N 69 10 E	4 41	1	17 19	219 5	
h — 12	4 32 $\frac{1}{2}$	N 68 28 $\frac{1}{2}$ E	4 50	7	17 19	219 5	
h — 12	Amplit	N 69 0 E	5 29	1	17 14	215 30	
O — 15	6 10 $\frac{1}{2}$	N 66 46 $\frac{1}{2}$ E	5 35	6	17 14	215 26	
h — 21	7 3 $\frac{1}{2}$	N 66 47 E	6 9	4	17 48	210 50	
August	15 15	N 65 56 $\frac{1}{2}$ L	5 38 $\frac{1}{2}$	6	17 44 $\frac{1}{2}$	210 35	
Sept 3	10 30 $\frac{1}{2}$	N 85 27 $\frac{1}{2}$ W	5 0	29	17 29 $\frac{1}{2}$	210 27 $\frac{1}{2}$	At Point Venus
h — 4	11 4 $\frac{1}{2}$	N 85 42 $\frac{1}{2}$ W	6 43	6	16 45	208 51 $\frac{1}{2}$	At Point Venus
O — 5	8 37 $\frac{1}{2}$	N 86 23 $\frac{1}{2}$ W	7 0	4	16 45	208 51 $\frac{1}{2}$	Ditto
D — 6	Amplit	N 89 30 W	6 14	4	16 45	208 51 $\frac{1}{2}$	Ditto
d — 7	5 4 $\frac{1}{2}$	N 87 33 $\frac{1}{2}$ W	6 34	1	16 45	208 51 $\frac{1}{2}$	Ditto
h — 9	9 45 $\frac{1}{2}$	N 86 32 $\frac{1}{2}$ W	6 2	6	16 45	208 51 $\frac{1}{2}$	Ditto
h — 15	11 49 $\frac{1}{2}$	N 86 45 $\frac{1}{2}$ W	6 14	7	16 58	208 32	Off Ulatera
h — 18	4 18 $\frac{1}{2}$	N 91 51 $\frac{1}{2}$ W	6 0	6	16 45 $\frac{1}{2}$	208 35	At Ulatera
O — 19	12 0 $\frac{1}{2}$	N 89 58 $\frac{1}{2}$ W	6 15	4	16 45 $\frac{1}{2}$	208 35	Ditto
D — 20	10 41 $\frac{1}{2}$	N 78 48 $\frac{1}{2}$ E	5 50	4	17 23	206 40	
h — 21	13 28 $\frac{1}{2}$	N 77 45 E	6 12	6	17 36	206 20	
O — 21	13 21 $\frac{1}{2}$	N 77 23 $\frac{1}{2}$ E	6 9	5	17 55	205 5	
h — 26	7 48 $\frac{1}{2}$	N 93 35 W	7 7	3	18 20	204 40	
D — 29	9 22 $\frac{1}{2}$	N 79 23 $\frac{1}{2}$ E	6 53	3	18 27 $\frac{1}{2}$	204 17	
h — 29	12 38 $\frac{1}{2}$	N 78 22 $\frac{1}{2}$ E	6 57	6	18 36	203 49	
O — 30	7 22 $\frac{1}{2}$	N 80 40 $\frac{1}{2}$ E	8 26	6	20 36	193 37	
h — 31	11 6 $\frac{1}{2}$	N 99 3 $\frac{1}{2}$ W	9 21	6	21 16	186 46	
O — 31	Amplit	S 75 27 W	9 3	6	21 21 $\frac{1}{2}$	185 26	At Eaoowe
h — 31	11 29 $\frac{1}{2}$	S 78 15 W	10 11	1	21 41	185 4	At Tongatabu
h — 31	9 16 $\frac{1}{2}$	S 76 5 W	10 11	6	21 9	185 0	
D — 11	15 24	N 79 34 $\frac{1}{2}$ E	11 14	3	22 5	184 57	Great motion
h — 12	14 4 $\frac{1}{2}$	S 76 46 $\frac{1}{2}$ W	11 19	4	25 3	181 58	
h — 13	16 46 $\frac{1}{2}$	N 78 42 $\frac{1}{2}$ E	11 25	4	26 53	181 1	
h — 14	6 17 $\frac{1}{2}$	N 84 15 $\frac{1}{2}$ E	11 39	4	27 32	180 50	
O — 17	10 56 $\frac{1}{2}$	S 72 12 $\frac{1}{2}$ W	11 28	6	28 24	180 18	
h — 20	14 47 $\frac{1}{2}$	N 78 25 $\frac{1}{2}$ E	11 53	6	29 48	179 50	
h — 21	7 52	N 84 0 E	13 41	6	32 48	180 0	
h — 21	13 9 $\frac{1}{2}$	S 73 56 $\frac{1}{2}$ W	13 17	4	33 30	180 2	
h — 21	13 44 $\frac{1}{2}$	N 83 28 $\frac{1}{2}$ E	13 16	6	38 54	178 35	
h — 21	15 21 $\frac{1}{2}$	S 66 35 W	13 4	4	39 18	177 58	Off New Zealand
Nov 3	10 29	S 65 40 $\frac{1}{2}$ W	13 32	6	39 53	177 16	Ditto
h — 4	8 57 $\frac{1}{2}$	S 64 4 $\frac{1}{2}$ W	14 43	6	41 48 $\frac{1}{2}$	175 58	Ditto
			13 21	6	41 18	176 42	Ditto
			13 12	6	41 38	175 40	Cape Palliser due North

ON BOARD THE ADVENTURE.

185.

1773.	Altitude of the ☉'s L. L.	Magnetic Azi- muth of the ☉'s Center.	Vari- ation East.	Long.	Latitude South.	Longitude East.	Remarks.
♂ Nov. 9.	8 4½	S. 87 47½ E.	13 12	6 38 21½	178 33½	In Tolaga Bay.	
♂ — 10.	5 53½	S. 86 50 E.	14 20	6 38 21½	178 33½	Ditto.	
♂ — 15.	11 46	N. 91 1½ E.	13 28	6 38 21½	178 33½	Ditto.	
♂ — 16.	9 46½	S. 60 57½ W.	12 46	6 38 53	178 23	Off New Zealand;	
♂ Dec. 23.	11 15	S. 83 25½ E.	14 56	6 42 44	175 0		
♂ — 24.	12 13½	S. 54 17½ W.	14 59	6 43 22	175 13		
1774.							
♂ Jan. 10.	22 12 9/10	S. 91 43½ E.	7 30	5 58 12	212 16		
♂ — 12.	10 52	S. 57 21½ W.	8 44	6 58 45	215 50		
♂ — 19.	12 16½	S. 62 53½ W.	7 57	3 59 29	242 15		
♂ — 21.	13 54½	S. 62 20½ W.	12 1	6 60 10	247 25		
	12 39½	S. 83 35½ E.	11 4	6 59 47	248 15		
♂ — 22.	14 55½	S. 64 53½ W.	11 49	6 59 23	249 42		
♂ — 23.	14 13½	S. 64 46 W.	11 4	5 59 19	252 54		
♂ — 24.	10 18½	S. 56 41½ W.	12 59	5 59 37	256 2		
♂ — 28.	14 15½	S. 55 11 W.	22 59	6 61 47	271 50		
♂ — 29.	14 37½	S. 55 26½ W.	24 1½	6 61 53	276 45		
♂ — 30.	13 49½	S. 53 55½ W.	24 40	6 61 31	281 55		
	9 47½	S. 45 18½ W.	25 47	6 61 30	282 0		
♂ Feb. 6.	13 26½	N. 78 15½ E.	19 20	7 59 30	313 0	Knight's Compass. Gregory's Compass.	
	14 31½		19 41	2 59 30	313 1		
♂ — 9.	16 4½	S. 71 54½ W.	15 54	6 57 12	318 48		
♂ — 10.	19 23½	S. 89 45½ W.	5 57	6 53 55	332 46		
	11 11½	S. 77 44½ W.	6 40	6 53 55	332 50		
	Amplit.	S. 53 57 W.	6 35	1 53 57	332 57		
♂ — 20.	27 9 9/10	N. 72 48 W.	2 14	6 53 21	341 7		
♂ — 21.	13 48½	N. 88 4 E.	0 50	8 53 16	349 17		
			West.				
♂ — 22.	11 28	S. 89 35½ W.	1 21	6 53 14	350 7		
♂ — 24.	12 43½	N. 88 57½ W.	4 57	6 52 51	356 7		
♂ — 26.	11 7½	S. 81 13½ E.	9 25	6 53 25	2 28		
Repeated a day, and rejected 360 degrees of Longitude.							
♂ — 26.	13 30½	N. 75 39½ W.	10 4	5 53 34	3 48		
♂ March 1.	12 26½	N. 72 31½ W.	12 44	6 53 48	8 21		
♂ — 3.	10 5½	N. 71 5½ W.	16 20	6 52 57	12 10		
♂ — 7.	12 23½	N. 66 45½ W.	16 54	10 48 15	14 2		
	10 22	S. 77 26½ E.	16 48	6 47 53	14 0		
♂ — 12.	6 22½	S. 71 53½ E.	19 51	6 40 24	15 10		
	11 7	S. 75 52½ E.	19 58	6 40 24	15 10		
♂ — 13.	16 25	N. 59 20½ W.	20 9	6 39 36½	15 18		
♂ — 14.	13 3	N. 61 56½ W.	20 52	5 37 2	16 10		
♂ — 16.	13 29½	S. 71 5 E.	20 49	4 34 21	17 32		
			21 32½	20 33 55½	18 23½	Cape of Good Hope.	
♂ April 18.	5 1½	S. 87 6½ E.	19 43	3 32 57	16 25		
♂ — 19.	7 19½	S. 89 21½ E.	19 29½	6 32 38	16 3		
♂ — 21.	8 1½	S. 90 54½ E.	18 27	6 30 33	13 9		

ASTRONOMICAL OBSERVATIONS

1774	Altitude of the Sun	Magnetic Azimuth of the Sun	Vertical Angle	Latitude	Longitude	Remarks
♀ April 22	Amplit	N 56 45 W	18 54	10 0	13 05	
♂ — 25	5 58	S 90 0 E	18 8	6 9	13 18	
♂ — 26	7 45	S 93 25 E	15 37	6 25	8 40	
♂ — 27	5 50	S 92 42	15 14	6 24	7 24	
♀ — 29	5 41	N 56 50 W	15 6	3 23	7 4	
♂ — 30	6 2	S 93 13	15 21	6 12	3 38	
♂ May 2	5 44	S 94 1	14 41	4 0	2 45	
♂ — 3	5 11	S 91 0	14 44	5 19	1 21	
♂ — 3	Amplit 3 29	N 87 25 E	14 -5	1 19	0 53	
♂ — 3		S 94 5 E	14 15	3 19	0 53	
♂ — 5	6 8	S 96 40	13 22	4 17	West 1 11	
♂ — 9	6 43	N 57 16	12 35	3 14	5 9	
♂ — 11	6 7	N 80 47	10 44	6 11	9 9	
♀ — 13	5 24	N 59 21	10 59	4 8	11 17	
♂ — 14	7 33	N 60 26	10 40	6 8	11 58	
♂ — 15	11 0	N 78 15	9 37	4 6	13 56	
♂ — 16	7 2	N 78 51	9 5	3 5	15 28	
♂ — 17	10 46	N 78 50	9 31	3 4	16 56	
♂ — 18	8 12	N 78 41	8 57	6 2	18 44	
♂ — 19	5 12	N 78 31	8 36	4 1	19 40	
♂ — 19	11 30	N 60 41	8 45	5 0	20 10	
♀ — 20	7 44	N 78 26	8 42	3 1	20 41	
♂ — 24	8 44	N 76 45	7 16	6 5	22 17	
♂ — 25	11 20	N 76 31	7 27	3 5	22 48	
♂ — 31	15 26	N 61 28	7 28	6 6	25 20	
♀ June 1	8 56	N 76 20	7 48	4 7	25 24	
♀ — 3	9 7	N 75 7	6 46	4 7	26 33	
♂ — 0	11 16	N 73 27	5 4	5 9	28 33	
♂ — 7	12 55	N 63 10	4 41	4 9	29 2	
♀ — 9	7 20	N 63 56	4 0	3 12	31 24	
♀ — 10	9 41	N 71 23	2 55	5 14	33 39	
♂ — 11	7 16	N 64 3	3 19	6 15	34 1	
♂ — 14	12 12	N 74 3	4 17	6 20	36 30	
♂ — 15	10 55	N 64 13	4 51	5 21	36 50	
♂ — 16	9 44	N 63 42	5 17	5 22	37 40	
♂ — 18	9 38	N 74 13	5 35	6 5	38 13	
♂ — 20	9 53	N 62 13	6 28	4 25	39 14	
♀ — 21	14 35	N 62 38	8 20	6 28	39 4	
♀ — 21	15 20	N 79 57	8 11	28 57	39 20	
♀ July 6	13 2	N 60 20	10 7	6 34	40 29	
♀ — 6	5 48	N 39 48	22 42	5 48	20 20	

A
JOURNAL

OF THE

SITUATIONS of his Majesty's Sloop ADVENTURE each Day at Noon,
during her late Voyage on Discoveries towards the South;

As shewn by the Log, by Mr. ARNOLD's two Time-keepers, No. 1. and No. 2:
and also by Observation.

TOGETHER WITH

The LONGITUDES and LATITUDES of the most
remarkable Places seen in that Voyage.

By Mr. WILLIAM BAYLEY.

ASTRONOMICAL OBSERVATIONS.

189.

1772.	Course.	Dist. Miles.	Latitude North by		Longitude West by		No. 1.		Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	No. 2.	
July 12.			50 21 $\frac{1}{2}$		4 16 $\frac{1}{2}$	Took a departure from Drake's Island.			
13.				50 6	4 33 $\frac{1}{2}$				
14.	S. 16 $\frac{1}{2}$ W.	45 $\frac{1}{2}$	49 22 $\frac{1}{2}$		4 52 $\frac{1}{2}$		4 48 $\frac{1}{2}$	4 41 $\frac{1}{2}$	
15.	S. 27 $\frac{1}{2}$ W.	25	49 0	48 50 $\frac{1}{2}$	5 18		5 11 $\frac{1}{2}$	5 7 $\frac{1}{2}$	
16.	S. 43 W.	105	47 33	47 29 $\frac{1}{2}$	7 11		7 1 $\frac{1}{2}$	6 56 $\frac{1}{2}$	
17.	S. 18 W.	68	46 24	46 26	7 41 $\frac{1}{2}$		7 18 $\frac{1}{2}$	7 10 $\frac{1}{2}$	
18.	N. 35 W.	34 $\frac{1}{2}$	46 45		8 1 $\frac{1}{2}$		7 39 $\frac{1}{2}$	7 27 $\frac{1}{2}$	
19.	S. 19 $\frac{1}{2}$ W.	83	45 28	45 20 $\frac{1}{2}$	8 46		8 5	7 51 $\frac{1}{2}$	
20.	S. 4 $\frac{1}{2}$ W.	77	44 4	43 56	8 55		8 14 $\frac{1}{2}$	7 56 $\frac{1}{2}$	
21.	S. 53 $\frac{1}{2}$ W.	44	43 30	43 29 $\frac{1}{2}$	9 41		8 35 $\frac{1}{2}$	8 12 $\frac{1}{2}$	
22.	N. 66 $\frac{1}{2}$ W.	17.3	43 33 $\frac{1}{2}$	43 37 $\frac{1}{2}$	10 3 $\frac{1}{2}$	9 32	8 42 $\frac{1}{2}$	8 18 $\frac{1}{2}$	
23.	S. 35 $\frac{1}{2}$ W.	93.7	42 20	42 16	11 33	11 28	9 59 $\frac{1}{2}$	9 32 $\frac{1}{2}$	
24.	S. 28 W.	156	39 59	40 3 $\frac{1}{2}$	13 07	11 55	11 29 $\frac{1}{2}$	10 55 $\frac{1}{2}$	
25.	S. 28 W.	156	37 44	37 40 $\frac{1}{2}$	14 45	13 33	12 51 $\frac{1}{2}$	12 14 $\frac{1}{2}$	
26.	S. 27 W.	143	35 40	35 32	16 6	14 54	14 14 $\frac{1}{2}$	13 34 $\frac{1}{2}$	
27.	S. 19 W.	114	33 44	33 42	16 50	15 38	15 2 $\frac{1}{2}$	14 18 $\frac{1}{2}$	
28.	S. 49 $\frac{1}{2}$ W.	81	32 50	32 48	18 7	16 55	16 10 $\frac{1}{2}$	15 25 $\frac{1}{2}$	
Aug. 2.				32 0 $\frac{1}{2}$	16 29		16 56 $\frac{1}{2}$	15 49 $\frac{1}{2}$	
3.	S. 23 W.	51 $\frac{1}{2}$	27 52 $\frac{1}{2}$	27 53	16 52		17 19 $\frac{1}{2}$	16 9 $\frac{1}{2}$	
4.	S. 28 $\frac{1}{2}$ W.	73	28 37 $\frac{1}{2}$	28 40	17 32 $\frac{1}{2}$	18 3	18 8 $\frac{1}{2}$	16 53 $\frac{1}{2}$	
5.	S. 23 W.	51 $\frac{1}{2}$	27 52	27 53	17 55 $\frac{1}{2}$	18 26	18 41 $\frac{1}{2}$	17 13 $\frac{1}{2}$	
6.	S. 10 $\frac{1}{2}$ W.	108	26 7	26 6 $\frac{1}{2}$	18 17	19 2	19 2 $\frac{1}{2}$	17 32 $\frac{1}{2}$	
7.	S. 11 W.	124 $\frac{1}{2}$	24 5	24 9	18 42	19 27	19 4 $\frac{1}{2}$	17 56 $\frac{1}{2}$	
8.	S. 12 $\frac{1}{2}$ W.	114	22 18	22 10 $\frac{1}{2}$	19 11	19 56	19 57 $\frac{1}{2}$	18 25 $\frac{1}{2}$	
9.	S. 23 W.	125	20 14	20 9	20 05	20 50 $\frac{1}{2}$	20 24 $\frac{1}{2}$	18 53 $\frac{1}{2}$	
10.	S. 23 $\frac{1}{2}$ W.	142	18 1	18 01	21 4 $\frac{1}{2}$	22 11 $\frac{1}{2}$	21 38 $\frac{1}{2}$	20 01 $\frac{1}{2}$	
11.	S. 19 $\frac{1}{2}$ W.	116	16 12	16 12	21 45	22 50	22 19 $\frac{1}{2}$	20 40 $\frac{1}{2}$	
12.	S. 30 $\frac{1}{2}$ W.	75 $\frac{1}{2}$	15 7		22 24 $\frac{1}{2}$	23 25	22 48 $\frac{1}{2}$	21 6 $\frac{1}{2}$	
	Porto Praya in St. Jago.			14 54		23 29			
15.	S. 30 $\frac{1}{2}$ E.	74	13 48		22 48	22 48	22 30 $\frac{1}{2}$	20 33 $\frac{1}{2}$	
16.	S. 7 E.	86 $\frac{1}{2}$	12 22	12 22	22 37	22 30	22 20 $\frac{1}{2}$	20 20 $\frac{1}{2}$	
17.	S. 45 E.	45.3	11 50		22 04	21 57	21 47 $\frac{1}{2}$	19 44 $\frac{1}{2}$	
18.	S. 34 $\frac{1}{2}$ E.	51.6	11 20	11 25	21 28	21 21 $\frac{1}{2}$	20 42 $\frac{1}{2}$	18 38 $\frac{1}{2}$	
19.	S. 36 $\frac{1}{2}$ E.	47.7	10 47		20 59	20 52	19 12 $\frac{1}{2}$	17 6 $\frac{1}{2}$	
20.	S. 8 $\frac{1}{2}$ E.	73.7	9 34		20 48	20 41	19 34 $\frac{1}{2}$	17 27 $\frac{1}{2}$	
21.	S. 33 $\frac{1}{2}$ E.	32	9 7	8 41	20 12	20 06	18 58 $\frac{1}{2}$	16 48 $\frac{1}{2}$	
22.	S. 47 $\frac{1}{2}$ E.	68.2	7 55	7 52	19 22	19 16	18 7 $\frac{1}{2}$	15 54 $\frac{1}{2}$	
23.	S. 39 $\frac{1}{2}$ E.	76 $\frac{1}{2}$	6 56	6 53 $\frac{1}{2}$	18 30	18 24	16 3 $\frac{1}{2}$	13 50 $\frac{1}{2}$	
24.	S. 66 $\frac{1}{2}$ E.	73.8	6 24	6 24 $\frac{1}{2}$	17 24	17 18	14 35 $\frac{1}{2}$	12 20 $\frac{1}{2}$	
25.	S. 55 $\frac{1}{2}$ E.	55 $\frac{1}{2}$	5 52 $\frac{1}{2}$	5 54	16 38	16 32	13 49 $\frac{1}{2}$	11 31 $\frac{1}{2}$	
26.	S. 59 E.	64 $\frac{1}{2}$	5 12	5 10	15 43	15 37	11 46 $\frac{1}{2}$	9 29 $\frac{1}{2}$	
27.	S. 41 E.	74 $\frac{1}{2}$	4 16	4 14	14 54	14 48	10 56 $\frac{1}{2}$	8 34 $\frac{1}{2}$	
28.	S. 63 $\frac{1}{2}$ E.	74 $\frac{1}{2}$	3 44	3 41	13 47	13 41	9 22 $\frac{1}{2}$	6 41 $\frac{1}{2}$	
29.	S. 65 $\frac{1}{2}$ E.	62 $\frac{1}{2}$	3 13 $\frac{1}{2}$	3 15 $\frac{1}{2}$	12 50 $\frac{1}{2}$	12 44 $\frac{1}{2}$	8 47 $\frac{1}{2}$	5 44 $\frac{1}{2}$	
30.	S. 61 $\frac{1}{2}$ E.	75 $\frac{1}{2}$	2 38	2 40	11 44	11 38	6 28 $\frac{1}{2}$	4 5 $\frac{1}{2}$	
31.	S. 84 $\frac{1}{2}$ E.	62.6	2 34	2 34 $\frac{1}{2}$	10 42 $\frac{1}{2}$	10 36 $\frac{1}{2}$	4 18 $\frac{1}{2}$	1 48 $\frac{1}{2}$	
Sept. 1.	S. 45 $\frac{1}{2}$ W.	49	1 59	1 59	11 18	5 46 $\frac{1}{2}$	4 36 $\frac{1}{2}$	2 0 $\frac{1}{2}$	It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.

It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.

1772	Course	Dist Miles	Latitude North by		Longitude West by				Remarks
			Account	Observat.	Account	Observat.	No 1	No 2	
Sept 2	S 53 W	59 6	1 23	1 23	12 5 ¹	6 34 ¹	4 24 ⁸	2 48 ⁸	
3	S 72 W	74 ¹	1 0	1 01	13 16	8 32	6 35 ¹	4 5 ¹	
4	S 81 W	64 ¹	0 49	0 51	14 20	9 31	7 56	5 24 ¹	
5	N 69 ¹ W	15 7	0 56	0 56 ¹	14 35	9 42	8 08 ¹	5 37	
6	S 64 E	48	0 35	0 36	13 53	9 21	7 12 ¹	4 32 ¹	
7	S 72 E	43	0 23	0 23 ¹	13 13	8 44	6 25 ¹	3 56 ¹	
8	S 57 ¹ W	76 ¹	0 18	0 18	14 18	9 49	7 28 ¹	4 5 ¹	
9	S 54 W	62	0 54	0 54 ¹	15 08	10 39	8 24 ¹	5 52 ¹	
10	S 31 W	72	1 56 ¹	1 57 ¹	15 45	11 16	9 45 ¹	7 11 ¹	
11	S 31 ¹ W	72	2 58	2 59 ¹	16 23	11 54	10 55	1 19	
12	S 22 ¹ W	75 6	4 10	4 10 ¹	16 52	12 46	11 4	1 9	
13	S 41 ¹ W	72 ¹	5 3 ¹	5 5	17 40	13 34	12 46	10 6	
14	S 32 W	98 ¹	6 29 ¹	6 29 ¹	18 33	14 27	13 47 ¹	11 7	
15	S 21 ¹ W	106	8 9 ¹	8 10	19 12	15 06	14 26	11 16 ¹	Th Ship co G
16	S 22 ¹ W	94	9 36	9 37	19 47	15 41 ¹	15 20 ¹	12 39 ¹	Trably to th S
17	S 28 ¹ W	95	10 59	10 0 ¹	20 31	16 28	16 1	13 28 ¹	W of her ice
18	S 25 ¹ W	95 ¹	12 26	12 26 ¹	21 15 ¹	17 38 ¹	16 11 ¹	14 01	loning
19	S 29 ¹ W	113	14 25	14 4 ¹	22 13 ¹	18 36	17 39 ¹	14 42 ¹	
20	S 24 ¹ W	99	15 35	15 34 ¹	22 56 ¹	19 14	18 17 ¹	15 13 ¹	
21	S 23 ¹ W	111	17 08	17 9 ¹	23 38	19 56	18 56 ¹	16 13 ¹	
22	S 15 W	93	18 39	18 39 ¹	24 3 ¹	20 36	19 26 ¹	16 35 ¹	
23	S 10 ¹ W	88	20 03	20 6 ¹	24 20	21 32	19 56 ¹	17 3 ¹	
24	S 10 ¹ W	83 ¹	21 29 ¹	21 28 ¹	24 36 ¹	22 01	20 17 ¹	17 4 ¹	
25	S 31 ¹ W	96	22 48	22 50	25 30	22 55	20 40 ¹	17 59 ¹	
26	S 5 ¹ E	83 ¹	24 11	24 13	25 21 4	22 46 4	21 30 ¹	18 13 ¹	
27	S 2 ¹ E	27	24 38 6	24 40	25 20 2	22 45 2	21 22 ¹	17 36 ¹	
28	S 22 ¹ E	52	25 25	25 28	24 58	22 23	21 11 ¹	17 23 ¹	
29	S 57 E	82 ¹	26 13	26 13	23 42	21 50	19 50 ¹	16 3 ¹	
30	S 67 ¹ E	119	27 0	26 58	21 40	19 48	17 41 ¹	13 53 ¹	
Oct 1	S 7 ¹ E	105	27 23	27 25	19 43	18 13	15 52	11 41 ¹	
2	S 77 ¹ E	42 ¹	27 34	27 33	18 57	17 07	14 35 ¹	10 29 ¹	
3	S 68 ¹ E	85 ¹	28 05	28 04	17 18	16 02	12 53 ¹	8 45 ¹	
4	S 64 ¹ E	128	28 59	28 58 ¹	15 09	14 11	10 27 ¹	6 8 ¹	
5	S 88 ¹ E	77 ¹	29 01	29 0	13 32 ¹	12 21	8 47 ¹		
6	S 8 ¹ W	42 ¹	29 43 ¹	29 42 ¹	13 42	12 29	8 54 ¹		
7	South	96	31 18	31 18	13 40	12 29	9 7 ¹		
8	S 9 ¹ E	85	32 42	32 42 ¹	13 23	12 12	8 50 ¹		
9	S 42 E	94 3	33 51 ¹	33 52 ¹	12 07	10 56	7 56 ¹		
10	S 67 ¹ E	93	34 27	34 28 ¹	10 24	19 13	5 25 ¹		
11	S 78 E	63 ¹	34 41	34 41	9 8	6 50	4 5 ¹		
12	S 73 E	24	8 37	6 04	8 37	6 04	3 33 ¹		
13	S 71 E	58 ¹	35 08	35 09	7 30	6 0	2 25 ¹		
14	S 77 ¹ E	92 ¹	35 30	35 29 ¹	5 34	4 04	0 29 ¹		
15	S 88 E	95 6	35 33	35 33	3 25	1 51	East.		
16	N 82 ¹ E	142 ¹	35 13	35 14	0 27	1 07	5 06 ¹		

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ON BOARD THE ADVENTURE.

191.

1772.	Course.	Dist.	Latitude South by		Longitude East by		No. 1.	Remarks.
			Account.	Observat.	Account.	Observat.		
		Miles.						
h Oct. 17.	N. 81 E.	110	34 57	34 57½	1 41	4 49	7 25½	
o — 18.	N. 79½ E.	135	34 33	34 33	4 27	7 35	10 9½	
D — 19.	N. 78½ E.	58	34 22	34 21	5 27	8 35	10 58½	
h — 20.	S. 38 E.	30.4	34 45	34 45	5 49.6	8 7½	11 24½	
h — 21.	S. 21 E.	50½	35 33	35 32	6 16	8 37	11 24½	
h — 22.	S. 17 E.	80	36 48½	36 49	6 45	9 6	11 53½	
h — 23.	S. 56½ E.	35.3	37 09	37 10	7 24	9 45	12 32½	
h — 24.	N. 61½ E.	99.3	36 39	36 39	9 22½	11 43½	15 8½	
o — 25.	N. 58 E.	138	35 27½	35 26	11 47½	14 08	17 24½	
D — 26.	N. 59½ E.	85½	34 42	34 43	13 16½	15 37	18 32½	
h — 27.	N. 47 E.	82	33 47	33 47	14 29½	16 50	19 33½	
h — 28.	N. 79½ E.	49	33 39	38 38	15 28½	17 49	20 23½	
h — 29.	S. 78½ E.	68	33 51½		16 49	19 09	21 43½	
D Nov. 23.	S. 40 W.	49½	34 33	34 34	17 41½		17 38½	
h — 24.	S. 9½ E.	46½	35 18.6	35 20	17 51½		17 47½	
h — 25.	S. 22½ W.	123	37 13.6	37 14	16 52½		16 39½	Both days the ship was S. W. of Acc.
h — 26.	S. 20½ W.	113½	39 0	39 0	16 01½		15 42½	
h — 27.	S. 24½ E.	67	40 0	40 01	16 37½		16 34½	
h — 28.	S. 5 W.	54	40 55	40 55	16 31½		16 28	
o — 29.	S. 1 W.	74.4	42 9	42 8	16 36		16 26½	
D — 30.	S. 53½ E.	30	42 27	42 26	17 9½	17 39	17 54½	
h Dec. 1.	S. 5 E.	48½	43 15	43 14	17 20	17 53½	18 5½	
h — 2.	S. 68½ E.	33	43 26		18 3½	18 36½	17 57½	
h — 3.	S. 10½ E.	63	44 29	44 28	18 20	18 40	19 23½	
h — 4.	S. 11½ W.	79	45 45	45 44	17 58½	18 2	18 44	
h — 5.	S. 14½ W.	87	47 9	47 9	17 27½	17 31	18 10½	
o — 6.	S. 2 E.	73½	43 23	43 23	17 30½	17 34½	18 13½	
D — 7.	S. 1½ W.	86.1	49 48	49 49	17 0½	17 4	17 43½	
h — 8.	N. 83½ E.	28½	49 46		17 37½	17 41½	18 21½	
h — 9.	S. 72 E.	12	49 50	49 47	17 55½	18 0	21 05½	
h — 10.	S. 5½ W.	77½	51 3	51 4	17 43½	17 48	20 55½	The first Ice Island.
h — 11.	S. 17½ E.	48	51 50	51 50	18 6½	18 11	21 43½	Ice Islands.
h — 12.	S. 23½ W.	62	52 46		17 17½	17 23	20 54½	Many Ice Islands.
o — 13.	S. 1½ E.	65.2	53 51		17 21½	17 26½	21 8½	Ditto.
D — 14.	S. 25½ E.	68	54 52	54 52	17 48½	18 16½	21 58½	Ditto Penguins.
h — 15.	S. 57½ E.	17	55 2	Cloudy.	18 14½	18 41½	22 23½	Ice Islands.
h — 16.	N. 75½ E.	57	55 06	Cloudy.	18 21½	18 49½	22 41½	Many ditto.
h — 17.	S. 45½ E.	28½	55 20	55 21	18 59½	19 27	23 54½	Ditto ditto.
h — 18.	S. 10 E.	20½	55 1	Cloudy.	19 5½	24 26	24 13½	Ditto ditto.
h — 19.	N. 44½ E.	36	54 34	Cloudy.	19 49½	25 10	25 30½	S. S. E. current,
o — 20.	N. 73½ E.	79	54 11	Cloudy.	22 6½	27 27	27 46½	ran ¼ a mile an h.
D — 21.	N. 84½ E.	41	54 7	54 7	23 6½	28 27	29 40½	Many Ice Islands.
h — 22.	S. 23½ E.	49	54 50	54 52	23 40½	29 1	30 14½	Ditto.
h — 23.	S. 50½ E.	51.6	55 25	55 24	24 52½	30 12	32 2½	Ditto.
h — 24.	S. 5½ W.	66	56 30	56 29½	24 42½	30 02	32 0	Log 48 feet to 29½.
h — 25.	S. 20½ W.	90	57 54	Cloudy.	23 46½	29 6		Ditto.
h — 26.	S. 67½ W.	94	58 30	58 30	21 4½	26 22	27 32½	Little Ice.

1772	Course	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	Observed	Account	Observed	N	
O Dec 27	N 82½ W	64½	58 21	58 21	18 48+	24 6	25 16+	Current S S t of mile in h w
D — 28	S 73 W	62	58 39	Cloudy	16 53½	22 11	23 21	Many birds
d — 29	S 65½ W	74	59 10	59 11	14 39½	19 57	21 7+	Little ice
d — 30	S 75½ W	46	59 22	59 22	13 7½	18 25	17 2¼	Many Penguin
u — 31	S 59½ W	65	59 55	Cloudy	11 27½	16 45	21 ¼	1 of 16 feet to 21
1773								
g Jan 1	S 74½ W	55	60 9	Cloudy	9 42½	15 0	14 02+	1 of 48 feet to 29
h — 2	S 55 W	62	59 15	59 20	7 54½	10 4	10 5½	Many Penguin
O — 3	S 84½ E	40	59 22	Cloudy	9 4½	11 24	12 18+	Much ice
D — 4	N 76½ E	95	59 0	59 1	12 4½	14 24	15 8+	Many whales
d — 5	S 76 E	151½	59 37	Cloudy	16 54½	19 14	20 8+	Swell from N W
d — 6	S 79½ E	130	59 59+	59 59	20 46½	23 8		ice
u — 7	S 73 E	120	60 34	60 36+	24 41½	27 1	28 58½	N W swell cont
d — 8	S 70½ E	130	61 18	61 19	29 0½	31 20	33 12½	1 of 5 feet to 29
h — 9	S 76½ E	67	61 36	61 35	32 6½	33 26	35 17½	Much ice
O — 10	S 55 E	38	61 56	61 55	32 10½	34 30	37 1+	Watered at the ice
D — 11	S 22½ E	90	63 19	63 19	33 26½	35 46	38 18½	Yet much ice
d — 12	S 30½ E	65	64 14	64 14	34 40½	37 0	39 3½	Look up more ice
d — 13	East	16	64 14	64 13½	35 17½	37 37	39 40+	Much ice and few
u — 14	N 26½ E	16	63 58+	63 59	35 34+	39 41	39 57½	birds
d — 15	S 21½ E	23½	63 35	63 35	35 54+	40 03	40 16+	Many ice island
h — 16	South	57	64 32	64 32	35 54+	40 03	39 57+	Many birds
O — 17	S 2½ W	124	66 36	66 34	35 44+	39 53	39 19+	Stopped by the ice
D — 18	S 5½ E	37 2	65 58	65 58+	35 53+	40 02	39 57+	Many ice islands
d — 19	N 15 E	97+	64 24+	64 29+	36 49½	40 58½	40 4½	Ditto
d — 20	N 37½ E	38	63 59+	Cloudy	37 49½	41 41+	40 47	Ditto
d — 21	N 29½ E	84+	62 45+	Cloudy	39 15+	43 14	42 10½	Ditto
d — 22	N 41½ E	100	61 31	61 33½	41 30+	45 29	44 1+	Ditto
O — 23	N 45 E	131	60 0½	60 2	44 37½	48 36+	47 8	Ditto
D — 24	N 45 E	138	58 24	58 23½	47 48+	51 47+	50 20+	Ditto
d — 25	N 6½ E	69	58 8	Cloudy	49 58+	53 57+	52 30+	Ditto
d — 26	North	46	57 22	Cloudy	49 58+	53 57	50 49½	Ditto
d — 27	N 17 E	56	56 28	56 29½	50 27+	51 55	52 18½	Ditto
u — 28	N 18 E	124	54 32	54 32	51 33½	53 01	53 12½	Ditto
d — 29	N 1½ E	130	52 29	52 27½	52 36+	54 04	54 15½	Ditto
d — 30	N 45 E	107	51 30	Cloudy	53 54+	55 22	55 33½	Ditto
O Feb 1	N 36½ E	52	50 48	50 48	54 43½	56 11½	58 30½	
D — 2	N 12½ E	127	49 44	Cloudy	55 27½	56 55	59 24½	
d — 3	S 40½ E	71	48 28	48 32	57 35½	59 3	61 34½	Much sea weed and
u — 4	S 63½ E	17½	48 45	48 44½	57 51½	59 19	62 15½	in my divers
d — 5	N 68½ W	18½	49 17	49 15	55 51½	57 39	61 8½	
h — 6	N 5 E	67	49 3	49 4	55 9½	60 14	60 27½	A N W swell
O — 7	S 68½ E	145	47 58	48 0	55 17½	60 22½	60 35½	
D — 8	S 45 E	114½	48 53	48 53	58 38½	63 6	63 48½	
			50 14	Cloudy	60 43½	65 11	65 53½	1 of the Resolution

1773.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
Feb. 9.	S. 66 E.	10	50 20	50 18	60 59½	65 27	66 9½	Many penguins.
10.	N. 35½ E.	31	49 54	49 53	61 27½	65 56	67 11½	Seals and birds.
11.	S. 21 E.	29	50 22	50 18	61 42½	66 11	67 30½	Red-headed pen-
12.	S. 78½ E.	11.4	50 41	50 41	64 38½	69 6½	70 24½	guins.
13.	S. 78½ E.	121	51 5	Cloudy.	67 47½	72 7	72 36½	
14.	S. 75½ E.	132	51 41	51 39½	71 16½	75 35	76 23½	Seals, whales & birds
15.	S. 76 E.	138	52 14	52 13	75 0½	79 18	82 1½	Ditto and porpoises.
16.	S. 76½ E.	78	52 32	Cloudy.	77 04½	81 22	82 18½	
17.	S. 79½ E.	143	52 55	52 56	80 52½	85 10	86 6½	
18.	N. 88½ E.	144	52 51	52 52½	84 51½	88 52	89 38½	Sea-weed.
19.	N. 83½ E.	148	52 35	52 35	88 58½	93 0	93 47½	
20.	N. 81 E.	146	52 16	52 16	92 53½	96 55	97 48	Sea-weed.
21.	East.	108	52 16	52 14	95 49½	99 51	101 5½	
22.	S. 72½ E.	46	52 28	Cloudy.	97 40	101 42½	102 57	Saw one ice isle.
23.	N. 80½ E.	97½	52 13	52 17½	100 17	104 16½	104 58½	Sea-weed.
24.	N. 83½ E.	89	52 8½	52 7	102 49½	106 49	107 46½	
25.	N. 78½ E.	128	51 40½	51 41½	106 16½	110 16	111 28½	
26.	N. 81½ E.	147	51 18	Cloudy.	109 52½	114 2	115 19½	
27.	N. 78 E.	150	50 47	Cloudy.	113 59½	117 59	119 16½	
28.	N. 81 E.	150	50 24	50 24	117 59½	121 49	123 9½	Rock-weed.
March 1.	N. 53½ E.	134	49 04	49 02	120 51½	124 41	126 1½	
2.	N. 52½ E.	150	47 29	Cloudy.	123 51½	127 41	129 1½	Log 48 feet to 29½ f.
3.	N. 56 E.	128	46 18	Cloudy.	126 25½	130 15	132 10½	Sea-weed, and the
4.	N. 42½ E.	121	44 48	44 48½	128 25½	132 15	134 20½	water discoloured.
5.	N. 67½ E.	123	44 04	44 3½	131 0½	136 10	137 17½	
6.	N. 83½ E.	144	43 58	43 47½	134 20½	139 30	141 0½	
7.	N. 84½ E.	9½	43 47	43 46½	136 30½	141 40	143 08½	
8.	N. 87 E.	110	43 41	43 40½	139 02½	144 37	145 27½	
9.	East.	69.6	43 43	43 45½	140 39½	145 07	147 03½	Saw land.
	Mew Stone, off Van Dic-			43 48		146 27		
	man's Land							
	The South West Point of			43 38		145 55		
	Van Dieman's Land							
	The South East Point of			43 38		146 59		
	Van Dieman's Land							
	Adventure's Bay, in Van			43 23		147 30		
	Dieman's Land							
10.	N. 76½ E.	36	43 40	43 40	141 25½	147 20	147 57½	
11.	N. 58½ E.	26	43 26	43 23	141 55½	147 30	148 46½	
16.	N. 71 E.	38	43 07½	43 08	148 19	148 26	149 33½	
17.	N. 11 E.	85½	41 44	41 44	147 56½	148 11½	149 41½	
18.	North.	82	40 22	40 21½	147 56	148 08	150 02½	
19.	N. 17½ E.	63	39 21	39 21	148 22	148 33½	150 19½	
20.	East.	77	39 22	39 22½	150 03	150 13	152 0½	
21.	N. 85½ E.	69½	39 16½	39 16½	151 43	151 43	153 30½	
22.	S. 78½ E.	59	39 28½	Cloudy.	152 47	152 58	154 47½	
23.	N. 73½ E.	70	39 8½	Cloudy.	154 14	154 25	156 14½	

ASTRONOMICAL OBSERVATIONS

1773	Course.	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	Observed	Account	Observed	No 1	
March 24	N 79 E	58	39 59	38 57½	155 26½	155 37	157 12½	Ship S of account
25	S 75½ E	95	39 21	39 20½	157 26½	157 37½	159 04½	
26	S 65 E	108	40 06	40 6½	159 33	159 44	161 02½	
27	S 83 E	65 5	40 14	40 14½	160 55	161 06	162 31½	
28	East	20	40 15	40 15½	161 21	161 32	163 12½	
29	S 64½ E	61	40 42	40 42	162 33	163 07	164 35½	
30	S 72 E	100	41 13	41 13	164 39	164 49	166 35½	
31	S 77 L	90	41 33	41 33	166 37	166 47	168 34½	
April 1	N 89 E	80	41 31	41 30½	168 25	168 35	170 22½	
2	N 82 E	97	41 17	Cloudy	170 35	170 45	172 32½	
	Cape Farewell, in New Zealand			40 38½		172 11½		
3	N 50½ E	57	40 41	40 40	171 35	171 45	173 46½	
4	N 66 E	59½	40 16	40 16	172 45	173 15	175 13½	
5	S 41½ E	48	40 52	40 52½	173 27	174 07	175 57½	
6				41 3½		173 55		
	Queen Charlotte's Sound in New Zealand			41 5½		175 0		
	Cape Palliser, in New Zealand			41 35				
June 7								A N W swell
8	S 39½ E	7	41 3½	41 3½	174 01	174 01	174 01	
9	S 54 L	99	42 51½	42 51	174 51	174 51	174 51	
10	S 56½ E	115	43 55½	43 50	176 49	176 49	176 49	
11	S 56½ E	87	44 45	43 57½	179 7½	179 26	179 16	
12	S 62½ E	129	45 46	Cloudy	180 47	181 06	181 06	
13	S 25 E	47½	46 29	Cloudy	183 30	183 49	183 49	
14	S 69½ E	45	46 46	Cloudy	184 0	184 7½	184 31½	
15	East	37	46 44	46 43½	185 07	185 14½	185 30½	
16	S 24½ E	41	47 26	46 45½	186 01	186 08	186 24	
17	N 58 E	58	46 28	Cloudy	186 25	186 32	186 48	A N E swell Ditto Ditto Ditto Sea-weed Log 45½ f to 29½ Log 48 feet to 29½
18	N 71½ E	96½	45 49	46 19½	186 25	186 32	186 48	
19	N 66 L	91	45 11	45 49½	188 37	188 44	188 11	
20	N 69½ E	119	44 31	45 12½	190 39	190 46	189 55½	
21	N 78½ E	64	44 18	44 30	193 18	193 25	192 34	
22	S 78 E	68 9	44 31	44 17	194 45	194 52	194 6½	
23	S 84½ E	55	44 37	44 32½	196 25	196 32	195 50	
24	N 6½ E	56	43 42	44 36½	197 42	197 49	197 13½	
25	N 28 W	33	43 13	Cloudy	197 45	197 52	197 17	
26	N 7½ W	9	43 05	Cloudy	197 23	197 30	196 55	
27	North.	42	42 25	43 05½	197 13	196 40	196 34	Many whales and birds
28	East.	41	42 24	42 23½	197 13½	196 30	196 34	
29	S 48½ E	33	42 46	42 23½	198 09½	198 04	197 46	
30	S 77 E	62	43 0	42 45½	198 44	199 0	198 24	
July 1	S 85½ E	84	43 06	42 59½	200 09	200 25	199 36	
2	N 85½ E	65	43 0	43 05½	202 03	202 19	201 16	
3	S 76 E	58	43 14	42 59½	203 32	203 48	202 56	
				43 13½	204 52	205 03	204 23	

1773.	Course.	Dist. Miles.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
July 4.	S. 40° E.	56	43 56	43 57½	205 42	205 54	205 10	
5.	N. 71½ E.	104	43 24	Cloudy.	207 57	208 09	205 01	
6.	N. 20½ E.	84	42 05	42 05	208 37	208 17	208 07	
7.	N. 36½ E.	60	41 17	41 17½	209 25	209 05	209 00	
8.	S. 62 E.	90	41 59½	51 57	211 8	210 49	210 52	
9.	S. 62½ E.	88	42 38	42 38½	212 52	212 33	212 57	Log 48 feet to 29" 1.
10.	S. 62½ E.	130	43 38	43 38½	215 27	215 36	215 46	A Western swell.
11.	N. 85½ E.	93	43 30	43 30½	217 39	217 23	217 58½	
12.	N. 78½ E.	82	43 13	43 13½	219 31	219 19	209 50	
13.	N. 71 E.	46	42 58	42 57½	220 32	220 20	220 56	
14.	N. 82 E.	54	42 50	Cloudy.	221 44	221 32	222 08	
15.	N. 24½ W.	18½	42 33	Cloudy.	221 35	221 23	221 59	
16.	N. 47 E.	102½	41 22½	41 23	223 12½	223 04	223 55	
17.	N. 43½ E.	138	39 42	39 42½	225 15	225 04	226 22	A S. W. swell.
18.	N. 10½ E.	113	37 51	37 51½	225 40	225 29	226 36	Swell from the South.
19.	N. 5½ E.	81.3	36 30	36 31	225 50	225 39	226 55	Log 43 feet to 29" 4.
20.	N. 2½ W.	71	35 19	35 19½	225 47	225 36	226 48½	
21.	N. 9½ W.	154	34 27	Cloudy.	225 19	225 08	226 20	
22.	N. 15½ W.	108	31 03	31 03½	224 46	224 35	225 34	Log 48 feet to 29" 4.
23.	N. 11½ W.	104	29 21	29 21½	224 24	224 13	225 19	
24.	S. 73½ W.	75	29 43	Cloudy.	223 0	222 49	223 55	
25.	S. 86 W.	44½	29 46	29 46	222 16	222 05	223 11	
26.	N. 41 E.	70	28 53	28 53½	223 09	224 14	224 09	
27.	N. 10½ W.	59	27 55	27 55½	223 20	225 14	225 10	
28.	N. 67½ W.	33	27 42	27 42½	222 57	224 39	224 58	
29.	N. 71½ W.	41½	27 29	27 29½	222 13	223 42	224 0	
30.	N. 64½ E.	58	27 03	27 03½	223 15	224 44	225 17	Tropic birds.
31.	N. 26 E.	48	26 20	26 19½	223 40	225 09	225 46½	Ditto.
Aug. 1.	N. 33½ E.	82	25 10	25 11	224 48	225 57	226 34	
2.	N. 6½ E.	118	23 14	23 14½	224 42	226 11	226 44	Ship N. E. of account.
3.	N. 14½ E.	65	22 11	22 10½	224 59	226 59	227 07	Many tropic birds.
4.	N. 10½ E.	49	21 21½	21 22½	225 08	227 10	227 15	Ship N. E. of account.
5.	N. 49½ E.	66	20 38	20 39½	226 03	227 50½	228 32	
6.	N. 33½ E.	65	19 44	19 44½	226 43	228 35	229 27	
7.	N. 53½ W.	85	18 53	18 51½	225 29	227 28	228 13	
8.	N. 72½ W.	148	18 06	18 04½	222 55	224 47	225 35	Log 48 feet to 29" 4.
9.	N. 79 W.	116	17 42	17 41½	220 51	222 33	223 30	
10.	N. 81½ W.	118	17 23	17 23½	218 47	220 32	221 26	
	A low island seen this day.			17 24		218 53		
11.	N. 86½ W.	117	17 16	17 16½	216 44	218 29	219 29	
	A low island seen to-day.			17 6		216 34		
12.	N. 86½ W.	98	17 10	17 9½	215 02	216 10	217 54	
	Another low island.			17 4		215 31		
13.	S. 86½ W.	75	17 15	17 14½	213 43½	215 11	216 46	
14.	S. 88½ W.	110	17 17	17 17½	211 48	212 50	215 08	

1773	Course		Dist Miles	Latitude South by		Longitude East by			Remarks
	°			Account	Observation	Account	Observation	No 1	
	Osnaburg Island			17 49½		211 47			
○ Aug 15	S 74° W	106	17 46	17 46½	210 03	211 05	213 28		
○ — 16	W 11	44		17 46	209 17	210 42	212 40		
	Oaitipha Bay, in Otaheite			17 45		210 36½			
	Point Venus, in Otaheite			17 29½		210 27½			
24 Sept 2	N 57° W	50		16 59½	209 38½				
	Owharie Bay, in Huahine			16 45		209 0			
	Ohumaneno Harbour, in Ulitea			16 45½		208 34½			
2 — 17				16 50½	208 11	208 11	208 03		
2 — 18	S 68½° W	71	17 16	17 15½	207 02	207 02	206 43		
○ — 19	S 69½° W	67	17 40	17 39½	205 54	205 54	205 30		
2 — 20	S 70½° W	62	18 01	18 01½	204 50	204 50	204 35		
2 — 21	S 65½° W	53	18 22½	18 23½	204 0	204 25	203 39		
2 — 22	S 72½° W	51	18 39½	18 39½	203 06	203 31	202 44		
24 — 23	S 73½° W	93	19 05	19 5½	201 33	201 58	201 11		
	Hervey's Islands			19 16		201 50			
2 — 24	S 74½° W	82	19 28	19 28	200 10	200 20	199 38		
2 — 25	S 79½° W	119	19 52	19 52½	198 06	197 10	197 38		
○ — 26	S 75½° W	128	20 24	20 25	195 52	195 26	195 43		
2 — 27	S 83½° W	129	20 38	20 39½	193 35½	193 09½	193 26½	Long 48 f ct to 20	
2 — 28	S 80° W	146	21 04	21 03½	190 58½	190 32½	190 49½		
2 — 29	S 77½° W	110	21 28½	21 28½	189 01½	188 35½	189 40		
2 — 30	N 83° W	136	21 12	21 11½	186 35	186 09	187 15		
2 Oct 1	S 84° W	83	21 20½	21 20½	185 06	184 40	185 59½		
	Anchoring Place of Tongatabu			21 4½		185 10			
2 — 8	S 111° W	58	22 01	22 01½	185 03	185 03	184 23		
2 — 9	S 52½° W	36	22 25	22 25½	185 36	185 28	184 54		
	Pylestaart Island			22 22½		184 25			
○ — 10	S 66½° W	50	22 45	22 45½	184 47	184 15	183 38		
2 — 11	S 42½° W	93	23 51	23 53½	183 39	183 0	182 32	Ship S W of Account	
2 — 12	S 28° W	110	25 31	25 30½	182 42	181 43	181 31	Long 48 f ct to 20	
2 — 13	S 2½° W	110	27 11	27 11½	181 55	180 56	180 40	Many Albatrosses	
2 — 14	S 22½° W	97	28 42	Cloudy	181 13	180 14	180 0		
2 — 15	S 14° W	96	30 15	30 15½	180 46	179 47	179 25	Many Albatrosses	
2 — 16	S 2½° W	84	31 38	31 38½	180 44	179 45	179 23	Many Porpoises	
○ — 17	S 10½° E	67	32 43	32 43½	180 57	179 58	179 27		
2 — 18	S 6½° E	65	33 47	33 47½	181 05	180 05	179 34½		
2 — 19	S 5½° E	128½	35 54	35 54½	181 21	180 21	179 50½		
2 — 20	S 6½° W	111½	37 45	37 44½	181 06	179 45	179 30		
2 — 21	S 24½° W	90	39 06	39 06½	180 19	178 26	178 10	Saw N Zealand	
2 — 22	S 53½° W	114 4	40 15	40 15½	178 20	176 30	176 31		
2 — 23	S 28½° W	44	40 53	40 53½	177 56	176 05	176 14		
○ — 24	S 36° W	47	41 31	41 31	177 19	175 28	175 40		
2 — 25	S 30° W	52	42 16	42 16	176 49	174 58	175 10		
2 — 26	S 36° W	21	42 33	42 32½	176 38	174 42	174 48		

1773.	Course.	Dist. Miles.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
Oct. 27.	S. 22½ W.	17	42 17	42 17½	176 29	174 33	174 39	
28.	East.	27	42 18	42 18½	177 06	175 10	174 50	
29.	N. 31½ E.	32.6	41 50	41 50½	177 29	175 33	175 0	
30.	S. 45 W.	4	41 53	41 53½	177 25	175 29	174 56	
31.	S. 12½ E.	40	42 32	42 32	177 37	175 41	175 08	
Nov. 1.	S. 8½ E.	20½	42 52	Cloudy.	177 41	175 45	175 12	
2.	N. 7½ E.	65½	41 37	41 37½	177 56	176 0	175 06	
3.	N. 52½ W.	28	41 20	41 20½	177 26	175 30	175 04	
4.	S. 53½ W.	21	41 36	41 36	176 56	175 0	174 05	
5.	S. 34½ E.	19	41 49	Cloudy.	177 05	175 09	174 14	
6.	N. 61½ E.	25.8	41 37	41 37½	177 53	175 57	175 02	
7.	N. 30½ E.	135	39 41	39 41½	179 21	177 25	176 30	
8.	N. 21½ E.	41	39 03	39 01½	179 47	177 51	176 56	
9.					179 36	177 40		
	Tolaga Bay, New Zealand.			38 21½		178 33½		
16.				38 31½	178 37½	178 37½	177 02½	
17.	S. 20½ W.	75	39 43	39 42	178 07½	178 07½	176 27	
18.	S. 45 W.	24	39 59	39 59	177 45	177 44½	176 08	
19.	S. 39 W.	48	40 38½	40 39½	177 09	177 08½	175 32	
20.	S. 48½ W.	36	41 03	41 02½	176 33	176 18	175 02	
21.	S. 89½ W.	22	41 05	41 05	176 08	175 53	174 37	
22.	East.	17	41 04	41 04½	176 32	176 25	175 37	
23.	N. 67½ W.	20	40 54	40 54½	176 08	175 53	175 07	
24.	S. 36½ W.	52	41 36	41 36½	175 28	175 13	174 27	
25.							173 30	
26.							173 21	
27.				41 57½				
28.								
29.				42 06½			173 22	
	Queen Charlotte's Sound.			41 5½		174 7½		
Dec. 23.				42 25½	175 10	175 10	175 13	
24.	S. 12½ W.	36	43 0	43 0½	175 0	175 0	175 0	Log 48 feet to 29½.
25.	S. 23½ E.	107	44 39	44 39	175 56	175 56	175 59	Many grampasses.
26.	S. 34½ E.	79	45 44	45 42½	176 59	176 59	176 57	Many seals.
27.	S. 36½ E.	52½	46 25	Cloudy.	177 44	177 44	177 42½	Many birds.
28.	S. 39½ E.	52	47 06	Cloudy.	178 32½	178 32½	178 31	Many birds and seals.
29.	S. 16½ E.	64	48 07	48 07½	178 57½	178 57½	178 51	The ship S. E. of Acc.
30.	S. 17 E.	90	49 31	Cloudy.	179 37	179 37	179 31	Pengwins, drift-wood, rock-weed, and seals.
31.	S. 8 E.	64	50 36	Cloudy.	179 50	179 50	179 44	
1774.								
Jan. 1.	S. 70½ E.	36	50 48	50 56½	180 44	180 44	180 55½	Ship S. of Acc.
2.	S. 65½ E.	97	51 38	51 36½	183 01	183 01	183 12	Log 48 feet to 29½.
3.	S. 50½ E.	148	53 11	Cloudy.	186 8½	186 8½	186 19½	Saw seals.
4.	S. 50½ E.	142	54 41	Cloudy.	189 15½	189 15½	189 26½	
5.	S. 64½ E.	121	55 29	55 28½	192 27½	192 54	192 42	Whales.
6.	S. 62 E.	124	56 27	Cloudy.	195 41	196 07½	195 55½	Saw rock-weed.
7.	S. 76 E.	122	56 56	Cloudy.	199 19	199 42½	199 30½	

1774.	Course	Dist Miles	Latitude South by		Longitude East by			Remarks
			Account	Observation	Account	Observation	Time	
h Jan 8	S 84° E	91	57 61	57 57	202 06	202 12	02 47	
o — 9	S 77° E	101	57 00	57 28	205 25	06 01	06 06	Many whales and birds
p — 10	S 75° E	94	57 56	Cloudy	209 11	06 19	206 5	
s — 11	S 79° E	124	58 18	58 18	212 10	12 46	12 51	Three Ice Islands
y — 12	S 74° E	86	58 40	58 40	214 43	215 20	211 5	Several Ice Islands
u — 13	S 83° E	41	58 45	58 45	16 2	216 39	217 16	Ditto
f — 14	I 11° E	37	51 16	Cloudy	217 15	217 50	18 27	
i — 15	S 86° E	123	58 40	58 46	21 11	221 48	2 3 02	
o — 16	S 89° E	120	58 50	58 50	225 03	225 40	2 6 51	Much ice
p — 17	S 82° E	118	59 05	59 54	228 54	229 31	23 08	End of 1st to 29
s — 18	S 87° E	155	59 11	59 11	234 0	234 37	37 29	Saw rock well
y — 19	S 84° E	150	59 25	59 44	38 26	241 05	41 43	A western swell
u — 20	S 78° E	140	59 5	59 52	243 0	245 39	246 17	
f — 21	S 68° E	41	60 00	60 09	244 26	247 20	248 05	A N W swell
h — 22	N 55° E	66	59 31	59 31	246 13	249 07	250 06	A S W swell
o — 23	N 79° E	86	59 15	59 15	249 0	251 51	252 51	Ditto
p — 24	S 81° E	106	59 33	59 33	25 32	255 26	257 22	Ditto
s — 25	S 69° E	150	60 1	Cloudy	56 36	59 50	261 06	Many birds
y — 26	S 71° E	108	60 48	Cloudy	260 08	265 02	264 35	
u — 27	S 77° E	110	61 13	Cloudy	265 51	266 45	268 16	A N W swell
f — 28	S 71° E	120	61 31	61 31	267 26	270 50	73 49	Ditto
h — 29	S 81° E	131	61 50	61 50	272 40	275 54	278 31	Ditto
o — 30	N 81° E	116	61 31	61 34	277 46	280 10	284 03	Porpoises and birds
p — 31	N 86° E	130	61 20	Cloudy	92 17	288 17	289 17	Ditto
s Feb 1	N 82° E	110	61 10	61 10	208 04	92 04	292 21	A westerly swell
y — 2	N 79° E	130	60 41	60 41	290 28	296 28	299 15	Ditto
u — 3	N 86° E	147	60 36	60 36	95 1	302 47	303 17	Ditto
f — 4	N 86° E	156	60 52	Cloudy	99 40	307 06	307 36	Birds innumerable
h — 5	N 8° E	116	60 19	Cloudy	303 32	310 58	311 11	A N W swell
o — 6	N 70° E	42	60 01	Cloudy	304 53	312 19	312 49	Many Ice Islands
p — 7	N 35° E	57	59 17	59 17	105 58	313 21	314 54	Many birds Ice
s — 8	N 52° E	70	56 30	58 30	307 54	315 0	317 20	The westerly swell
y — 9	N 75° E	118	7 20	57 20	310 57	318 18	320 18	continues
u — 10	N 68° E	60	56 53	56 53	312 37	320 03	322 03	Many Ice Islands
f — 11	N 6° E	54	50 5	Cloudy	314 58	322 42	324 24	Red headed Puffins
h — 12	N 41° E	71	55 8	Cloudy	316 21	323 17	325 47	Birds
o — 13	N 56° E	92	54 38	Cloudy	318 30	325 57	327 56	Yet a westerly swell
p — 14	N 77° E	71	54 25	Cloudy	320 41	327 59	329 59	Many seals Ice
s — 15	N 84° E	106	54 11	Cloudy	323 33	330 59	332 59	Some seals
y — 16	N 79° E	46	54 02	54 02	324 50	332 16	336 9	No westerly swell
u — 17	S 85° E	99	54 10	Cloudy	327 38	335 04	338 57	Swell from the N
f — 18	I 11° E	46	54 12	54 12	328 57	336 3	340 16	Swell from the N
h — 19	N 78° E	60	54 0	54 0	330 38	338 04	341 57	Swell from N N W
o — 20	N 66° E	93	53 20	53 20	333 01	340 27	343 56	Saw seals and birds
p — 21	N 56° E	108	53 24	53 24	336 02	343 28	346 50	Saw seals and birds
s — 22	N 54° E	92	53 11	53 11	338 34	349 37	349 37	S W swell Ice

1774.	Course.	Dist. Miles.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
Feb. 23.	N. 86 E.	107	53 04	Cloudy.	341 31	352 34	352 29½	A Western swell: ice.
24.	N. 80½ E.	101	52 46	52 46½	344 19	355 22	355 43	Ditto.
25.	S. 74½ E.	109.8	53 16	53 16	347 14	358 17	358 38	Ditto.
26.	S. 79½ E.	100	53 35	Cloudy.	349 58	0 03	1 09	Ditto.
Having made a complete revolution round the Globe, Mr. Bayley here rejected 360°, and repeated 0, February 26, to make his day correspond with the day at Greenwich.								
26.	N. 85½ E.	110	53 27	53 27	353 3	3 08	4 09½	Porpoises and ice.
27.	S. 71½ E.	86	53 54	53 53½	355 22	5 27	6 28½	Penguins and ice.
28.	S. 58½ E.	19	54 03	Cloudy.	355 48	5 52½	6 54	Several ice islands.
March 1.	N. 73 E.	67	53 44	Cloudy.	357 36	7 41	9 19	Seals and birds.
2.	S. 75½ E.	79	54 04	54 04½	359 46	9 51	11 28	Ice.
3.	N. 52 E.	76	53 17	53 17½	1 27	11 40	13 20	Whales and porpoises.
4.	N. 8½ W.	36½	51 42	Cloudy.	1 18	11 31	13 11	A Western swell yet.
5.	N. 19½ E.	124	50 45	50 44½	2 26	12 39	14 44	Ship N. E. of acct.
6.	N. 56½ E.	88	49 55	Cloudy.	4 17	14 30	16 35	Many porpoises.
7.	N. 4½ E.	83	48 32	48 32½	4 26	14 01½	16 48	Ice and sea-weed.
8.	N. 15 W.	57	47 36½	47 36½	4 03	13 52	16 40	Some ice islands.
9.	N. 12 E.	119	45 41	Cloudy.	4 39	14 27½	17 12½	
10.	N. 8 E.	148	43 14	43 13½	5 07	14 50	17 35	The Western swell yet.
11.	N. 15 W.	89	43 48	41 48½	4 36	14 19	17 04	
12.	N. 19 E.	33½	41 16	Cloudy.	4 51	14 34	17 33	
13.	N. 19½ E.	84	39 59	39 59	5 23	15 14	18 13	
14.	N. 13½ E.	152	37 32	37 32½	6 07.7	16 04	18 56½	
15.	North.	121	35 32	35 31½	6 07.7	16 47	18 54	
16.	N. 11½ E.	55½	34 37	34 37½	6 21.3	16 51	19 14	Ship N. W. of acct.
17.	N. 63 E.	53	34 13	34 12½	7 19.3	17 42	20 17½	
Cape of Good Hope.			33 55½			18 22½		
April 17.	N. 45 W.	60	33 13	33 12½	17 31	17 31	17 29½	
18.	N. 51½ W.	37	32 49	Cloudy.	16 54	16 54	16 52½	
19.	S. 70½ W.	46	33 4½	33 4½	16 07	16 07	16 12	Log 48 f. to 29½.
20.	N. 3 E.	31	32 34	32 33½	16 09	16 07	16 14	
21.	N. 48½ W.	120	31 13	31 13½	14 22	14 22	14 23	
22.	N. 50½ W.	90	30 16	30 16½	13 02	13 0	13 07	
23.	North.	60	29 15	29 14½	13 02	13 23½	13 08	Drift-wood.
24.	N. 47 W.	133	27 44	27 44½	11 21	11 43	11 27	
25.	N. 51½ W.	146	26 13	26 13½	9 14	9 36	9 17	
26.	N. 39 W.	97	24 57	24 57½	8 05	8 28	8 04	Ship N. W. of acct.
27.	N. 44 W.	97	23 48	23 47½	6 49	7 12	6 30	
28.	N. 40½ W.	77	22 49	22 49½	5 56	6 19	5 42	
29.	N. 45 W.	79	21 53	21 53	4 55	5 18	4 17	Many porpoises and birds.
30.	N. 52 W.	51	21 21½	21 21½	4 11½	3 31.2	3 37	A Western swell.
May 1.	N. 46 W.	43	20 51	20 51½	3 38½	2 40½	2 54	
2.	N. 43½ W.	40	20 22	20 22½	3 09	1 57	2 23½	
3.	N. 37 W.	63	19 32	19 32½	2 28	1 13	1 54	
4.	N. 70 W.	16	19 27	19 27½	2 12	0 50	1 42	
5.	N. 50½ W.	63	18 47	18 47½	1 21½	0 0	0 55	Log 48 feet to 39½.

ASTRONOMICAL OBSERVATIONS

1774	Course		Dist Miles	Latitude South b		Longitude East by			Remarks
				Account	Observed	Account	Observed	No 1	
2 May 6	N	49 W	101	17 41	17 41	0 02 $\frac{1}{2}$ West	1 29	0 3/ Well	
h — 7	N	51 $\frac{1}{2}$ W	84	16 49	16 49 $\frac{1}{2}$	1 05 $\frac{1}{2}$	2 37	1 15	
O — 8	N	44 W	84 $\frac{1}{2}$	15 48	15 48 $\frac{1}{2}$	2 06 $\frac{1}{2}$	3 38	2 49 $\frac{1}{2}$	
D — 9	N	45 W	84	14 49	Cloudy	3 07 $\frac{1}{2}$	4 54	4 05	
h — 10	N	48 $\frac{1}{2}$ W	130	13 23	13 23 $\frac{1}{2}$	4 47 $\frac{1}{2}$	6 34 3	5 12	
h — 11	N	48 $\frac{1}{2}$ W	123	12 02	12 02 $\frac{1}{2}$	6 21 7	8 08 5	7 19	Flying fish and dolphins
h — 12	N	44 W	110	10 43	10 43	7 39 1	9 25 9	8 36	
h — 13	N	46 $\frac{1}{2}$ W	128	9 14	9 14 $\frac{1}{2}$	9 13	10 59	10 06	
h — 14	N	49 $\frac{1}{2}$ W	120	7 55	7 55 $\frac{1}{2}$	10 45	12 17	11 42 7	Log 18 f to 29 f
O — 15	N	49 $\frac{1}{2}$ W	126	6 33	6 33 $\frac{1}{2}$	12 21	14 15	13 11	
D — 16	N	47 $\frac{1}{2}$ W	117	5 14	5 14 $\frac{1}{2}$	13 47 $\frac{1}{2}$	15 46	14 40	
h — 17	N	47 $\frac{1}{2}$ W	110	4 0	4 0 $\frac{1}{2}$	15 07 $\frac{1}{2}$	17 10	16 0	
h — 18	N	44 $\frac{1}{2}$ W	118	2 35	2 35 $\frac{1}{2}$	16 29 $\frac{1}{2}$	19 02	17 37	Ship S 1 of acc
h — 19	N	26 W	108	0 58 North	0 58 $\frac{1}{2}$ North	17 16	19 50	18 44	
h — 20	N	20 W	85	0 21	0 21 $\frac{1}{2}$	17 46	20 35	19 16	
h — 21	N	22 W	68	1 24	1 24 $\frac{1}{2}$	18 12	21 0	20 21	
O — 22	N	19 W	95	2 54	2 54 $\frac{1}{2}$	18 43	21 31	21 17	
D — 23	N	21 W	76 $\frac{1}{2}$	4 05	4 05 $\frac{1}{2}$	19 12	22 0	21 55	Log 48 f to 29'
h — 24	N	27 W	36	4 36	4 36 $\frac{1}{2}$	19 28	22 17	21 59	
h — 25	North		50	5 27	5 27 $\frac{1}{2}$	19 28	22 17	21 50	Ship N of account
h — 26	N	50 W	45	5 56	5 56 $\frac{1}{2}$	20 03	22 52	21 55	Swell from N 1
h — 27	N	84 W	30	5 59	5 59 $\frac{1}{2}$	20 33	24 34	21 59	Ship W of acc
h — 28	N	45 W	31	6 21	6 21 $\frac{1}{2}$	20 54	24 55	22 14	Ship S W of acc
O — 29	N	51 W	26	6 38	6 37 $\frac{1}{2}$	21 15	25 18	22 35	
D — 30	N	80 $\frac{1}{2}$ E	18	6 41	Cloudy	20 57	25 0	22 47	
h — 31	S	75 $\frac{1}{2}$ W	4	6 37	6 36 $\frac{1}{2}$	21 17	25 20	21 24 $\frac{1}{2}$	
h June 1	N	35 L	11	6 48	6 47 $\frac{1}{2}$	21 07	24 57	21 18	
h — 2	N	61 $\frac{1}{2}$ W	39	7 07	7 07 $\frac{1}{2}$	21 44	25 37 $\frac{1}{2}$	21 19	
h — 3	N	85 W	38	7 11	7 11	22 22	25 50	22 07	
h — 4	N	58 $\frac{1}{2}$ W	54	7 39	7 39 $\frac{1}{2}$	23 08	26 45	22 54	
O — 5	N	55 W	34 7	7 59	7 59 $\frac{1}{2}$	23 38	27 15 $\frac{1}{2}$	23 37	
D — 6	N	69 W	41	8 14	8 14	24 17	27 54	24 0	
h — 7	N	43 $\frac{1}{2}$ W	84	9 15	9 14 $\frac{1}{2}$	25 15	28 51	25 08	
h — 8	N	44 W	103	10 29	10 28 $\frac{1}{2}$	26 30	30 06	26 28	Ship N W of acc
h — 9	N	39 $\frac{1}{2}$ W	106	11 51	11 51 $\frac{1}{2}$	27 36	31 12	27 38	Ditto
h — 10	N	42 $\frac{1}{2}$ W	117	13 18	13 18 $\frac{1}{2}$	28 56	32 31	28 59	Log 18 f to 29
h — 11	N	43 W	115	14 42	14 42	30 16	33 51	30 11	
O — 12	N	25 $\frac{1}{2}$ W	112	16 23	16 23 $\frac{1}{2}$	31 05	34 44	31 28	Log 48 f to 28 $\frac{1}{2}$
D — 13	N	25 W	89	17 44	17 44 $\frac{1}{2}$	31 44	35 37	32 21	
h — 14	N	15 W	92	19 13	19 13 $\frac{1}{2}$	32 09	36 16	32 29 $\frac{1}{2}$	
h — 15	N	12 $\frac{1}{2}$ W	98	20 49	20 49 $\frac{1}{2}$	32 30	36 38	33 11	
h — 16	N	21 $\frac{1}{2}$ W	100	22 22	22 21 $\frac{1}{2}$	33 10	37 29	33 56 $\frac{1}{2}$	
h — 17	N	24 $\frac{1}{2}$ W	91	23 45	23 45 $\frac{1}{2}$	33 50 $\frac{1}{2}$	38 23	34 47'	
h — 18	N	12 W	86	25 09	25 09 $\frac{1}{2}$	34 10	39 09	35 09	Sea weed

1774.	Course.	Dist.	Latitude North by		Longitude West by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
		Miles.						
○ June 19.	N. 7½ W.	85	26 33	26 33½	34 21	39 11	35 20	Ship N. E. of Acc.
○ — 20.	N. 7 E.	87	28 0	28 0½	34 11	38 58	35 06	Sea weed.
♂ — 21.	N. 6 E.	78	29 17	29 17½	34 02	39 24	35 37	Ship N. E. of Acc.
♂ — 22.	N. 8 W.	99	30 55	30 55	34 18	39 36	35 24	
⊥ — 23.	N. 13½ W.	107	32 39	32 39½	34 46	40 04	35 38	Ship N. of Account.
♀ — 24.	N. 12½ W.	106	24 23	24 23½	35 10	40 29	36 12	Ship N. E. of Acc.
h — 25.	North.	93	35 56	35 56½	35 10	40 29	36 02½	Log 50 feet to 29".
○ — 26.	N. 12½ E.	78	37 12	37 11½	34 52	40 21	35 54	Log 48 feet to 29".
○ — 27.	N. 50½ E.	54	37 45	37 45½	34 03	39 32	35 06	Ship S. W. of Acc.
♂ — 28.	N. 70 E.	24	37 53	37 53½	33 38	40 10	34 18	Ship S. E. of Acc.
♂ — 29.	N. 36½ E.	58	38 40	38 40½	32 54	39 40	33 36	Ship N. E. of Acc.
⊥ — 30.	N. 50½ E.	52	39 13	39 13	32 02	39 0	32 30	Ship S. W. of Acc.
♀ July 1.	N. 58½ E.	100	40 06	40 06½	30 11	37 24	30 40	Ship ditto.
h — 2.	N. 53½ E.	75	40 50	40 51	28 42	35 55	29 10	
○ — 3.	N. 40½ E.	51	41 32	41 32½	27 53	35 02	27 42	
○ — 4.	N. 58 E.	134	42 44	42 44	25 19	32 32½	25 06½	
♂ — 5.	N. 53½ E.	135	44 01	44 01	22 43	29 56½	22 39	Log 48 feet to 29".
♂ — 6.	N. 47½ E.	153	45 45	45 45	20 04	27 18	19 50	A W.S.W. swell.
⊥ — 7.	N. 58½ E.	161	47 10	47 10	16 44	23 58	16 27	Ditto.
♀ — 8.	N. 67½ E.	141	48 05	48 05½	13 27	20 41	13 24	Ditto.
h — 9.	N. 61½ W.	144	49 09	49 09	10 05	17 19	10 07½	
○ — 10.	N. 84½ E.	134	49 22	49 21½	6 41	13 55	6 41	
○ — 11.	N. 86½ E.	94	49 27	49 27½	4 17	11 31	4 07	Had soundings 80 fathom.
♂ — 12.	N. 86½ E.	137	49 35	49 35½	0 47.7 East.	8 01	0 05 East.	Log 48 feet to 29".
♀ — 13.	N. 79 E.	164	50 06	50 06½	1 53	5 20	2 50	Ram Head N. W. about 6 leagues.

* * In the preceding Journal, the Course and Distance, put down in the second and third columns, are those made good for the whole day; after variation of the compass, lee way, heave of the sea, currents, &c. are allowed for, in the judgment of the navigator. The fourth and sixth columns contain the Latitude and Longitude of the Ship deduced from that course and distance on the noon of the day mentioned in the first column, being the noon of the civil day, or that where the nautical day ends, and the astronomical one begins. The fourth column contains the Latitude observed at the same noon, and the seventh contains the Longitude of the Ship as carried on from the last lunar observation by means of the Log, or deal reckoning, as it is usually called. It would, perhaps, in general, have been better to have carried it on by the Watch (No. 1.) but it may yet be done, by any person who wishes to have the Longitude of a particular place more correct, or corroborated by a greater number of observations, as the apparent times of most of the lunar observations were deduced from altitudes taken for the Watch. And it may here be observed, that the Longitude of any place, obtained by reducing a number of observations to that place by means of the Watch, will gene-

rally be had pretty true, notwithstanding that the rate which the Watch was then going it may differ something from that made use of; nay even if the rate of the Watch's going alter in that time, provided that all the observations made in an equal extent of time before and after making that land be used, and reduced separately thereto and the mean of the two Longitudes thus obtained be made use of; as it may reasonably be presumed, that although the Watch's motion be not quite uniform, the acceleration or retardation of that motion will be nearly so, and of course cause no material error in a fortnight, during which interval several observations were generally got, at least when they were near any lands, or where the exact situation of the Ship was of any consequence. The two last columns contain the Longitude of the Ship as deduced from the two Watches, No 1 and 2 so long as No 2 went with any tolerable degree of regularity afterwards, the last column is discontinued

METEOROLOGICAL OBSERVATIONS,

M A D E

On Board His MAJESTY'S Sloop ADVENTURE,

In her late Voyage on DISCOVERIES towards the SOUTH.

By Mr. WILLIAM BAYLEY.

1772.		Morn.	Noon.		Baro- meter.	Ther- mometer.	Even.	Ther- mo- meter.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude North.	Longitude West of Greenwich.						
2	July 17.	67	46 26	7 41 $\frac{1}{2}$	29,9	68	66	N. W.	Brisk wind and clear weather.	
5	18.	68	46 46	8 2	29,87	69	65	S. W. by W.	Ditto, squally.	
0	19.	65	45 20	8 46	29,9	64	65	N. W.	Moderate wind, and cloudy.	
3	20.	65 $\frac{1}{2}$	43 56	8 55	30,0	67	64 $\frac{1}{2}$	W. N. W.	Brisk wind, with rain.	
6	21.	63	43 29 $\frac{1}{2}$	9 10	29,9	67	65	{ West. E. S. E. }	Hazy weather.	
9	22.	65	43 37 $\frac{1}{2}$	9 32	30,0	66	65	N. W.	Moderate wind, and cloudy.	
12	23.	67	42 16	11 28	30,08	68	66	North.	Brisk wind, and fine weather.	
5	24.	66	40 3 $\frac{1}{2}$	11 55	30,03	67	67	N. E.	Ditto.	
8	25.	68	37 40 $\frac{1}{2}$	13 33	30,15	70	68	Ditto.	Ditto, cloudy.	
0	26.	70	35 31 $\frac{1}{2}$	14 54	30,05	72	69	Ditto.	Moderate wind, ditto.	
3	27.	69 $\frac{1}{2}$	33 43	15 38	29,9	72 $\frac{1}{2}$	71	Ditto.	Ditto.	
6	28.	72	32 48	16 55	30,01	74 $\frac{1}{2}$	73	North.	Ditto, fine weather.	
9	29.	72	At Madeira.		29,88	75	73		Brisk wind, and squally.	
12	30.	73			30,1	76	74	Variable.	Gentle breezes, with rain.	
5	31.	74	32 33 $\frac{1}{2}$	17 5	30,26	75 $\frac{1}{2}$	74		Ditto.	
8	Aug. 1.	73			29,92	76	75		Ditto.	
0	2.	71	32 0 $\frac{1}{2}$	16 29	29,69	73	72 $\frac{1}{2}$	East.	Brisk wind, and squally weather.	
3	3.	72	29 43 $\frac{1}{2}$	16 52	29,8	73	72 $\frac{1}{2}$	N. E.	Ditto, and fine weather.	
6	4.	74	28 40 $\frac{1}{2}$	18 3	29,77	73	73	N. E. by E.	Ditto, and cloudy.	
9	5.	73	27 53 $\frac{1}{2}$	18 26	29,87	73	72	{ N. E. S. W. }	Moderate wind, and ditto.	
12	6.	73	26 6 $\frac{1}{2}$	19 2	30,0	73	72	E. by N.	Ditto.	
5	7.	76	24 9	19 27	30,05	75	73	Ditto.	Ditto.	
8	8.	74	22 10 $\frac{1}{2}$	19 56	29,95	76	73	E. by S.	Brisk wind, ditto.	
0	9.	74	20 8 $\frac{1}{2}$	20 50 $\frac{1}{2}$	29,6	75 $\frac{1}{2}$	74 $\frac{1}{2}$	N. N. E.	Moderate wind, and fine weath.	
3	10.	74	18 10	22 11	30,0	77	77	Ditto.	Brisk wind, and cloudy.	
6	11.	78 $\frac{1}{2}$	16 12	22 50	30,0	83	78	Ditto.	Ditto.	
9	12.	77	15 07	23 25	29,85	79	78	Ditto.	Moderate wind, ditto.	
12	13.	78	14 54	23 29	29,9	78 $\frac{1}{2}$	79	Ditto.	Brisk wind, with rain.	
5	14.	79	14 54	23 29	30,0	81 $\frac{1}{2}$	78 $\frac{1}{2}$	Ditto.	Cloudy, with drizzling rain.	
8	15.	79 $\frac{1}{2}$	13 48	22 48	30,0	81	79	Ditto.	Ditto.	
0	16.	78 $\frac{1}{2}$	12 22	22 30	29,9	80	78	East.	Little wind, and cloudy.	
3	17.	78 $\frac{1}{2}$	11 50	21 57	29,95	81	80		Ditto, and drizzling rain.	
6	18.	77	11 25 $\frac{1}{2}$	21 21 $\frac{1}{2}$	29,95	81	77	S. W.	Ditto, cloudy.	
9	19.	79	10 47	20 52	30,0	77	77 $\frac{1}{2}$	S. W. by W.	Ditto, heavy rain.	
12	20.	76	9 34	20 41	29,95	78 $\frac{1}{2}$	77 $\frac{1}{2}$	N. W. by N.	Ditto.	
5	21.	79	8 41 $\frac{1}{2}$	20 6	29,9	78 $\frac{1}{2}$	77 $\frac{1}{2}$	{ East. S. W. }	Squally, with rain.	
8	22.	79	7 55	19 16	29,9	79	79	Ditto.	Brisk wind, and cloudy.	
0	23.	80 $\frac{1}{2}$	6 53 $\frac{1}{2}$	18 24	30,05	80	78	Ditto.	Ditto.	
3	24.	79	6 24 $\frac{1}{2}$	17 18	29,9	79	78	S. by W.	Moderate wind, and cloudy.	
6	25.	78 $\frac{1}{2}$	5 53 $\frac{1}{2}$	16 32	29,95	79 $\frac{1}{2}$	79	S. W. by S.	Ditto, and fine weather.	
9	26.	78 $\frac{1}{2}$	5 10	15 37	29,95	78 $\frac{1}{2}$	78	S. W.	Ditto, with rain.	
12	27.	78	4 13 $\frac{1}{2}$	14 48	29,9	78 $\frac{1}{2}$	78	S. W. by S.	Brisk wind, and cloudy.	

1772.		Morn.		Noon.				Even.		Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude West of Green- wich.	Baromet.	Thermom.	Ther- mo- meter.				
								o	o		
○	Oct. 4.	4. 64	28 59	13 46	30,1	64	57	S. W.	Squally, with drizzling rain.		
○	— 5.	56	29 0	12 21	30,05	60½	56	South.	Brisk wind and cloudy.		
♂	— 6.	59	29 42½	12 28	29,95	61	58	S. E.	Ditto, and fine weather.		
♂	— 7.	59	31 18	12 28	30,1	59	57	E. S. E.	Squally weather.		
♂	— 8.	58	32 42½	12 11	30,0	59	58½	East.			
♀	— 9.	59	33 52½	10 56	30,15	59½	57	E. N. E.	Moderate wind, and cloudy.		
♂	— 10.	59	34 28	9 13	30,35	65	58	N. E.	Squally weather.		
○	— 11.	57	34 41	6 50	30,3	59	59	N. N. E.	Little wind, and fine weather.		
○	— 12.	57	34 49	6 04	30,1	65	58	North.			
♂	— 13.	58	35 09	6 0	30,15	65	56	N. E.	Squally, with rain.		
♂	— 14.	57	35 29	4 04	30,25	60	58	N. E.			
♂	— 15.	58	35 33	1 51	30,0	63½	57	N. E. by N.	Brisk wind, and cloudy.		
				East.							
♀	— 16.	59	35 14	1 07	29,95	62½	57	North.	Brisk wind, and cloudy.		
♂	— 17.	56	34 57	4 49	30,05	58	54	West.			
○	— 18.	53	34 33	7 35	30,1	57	53½	S. W.	Brisk wind, and drizzling rain.		
—	— 19.	54	34 21	8 35	30,0	56	53	S. S. E.			
—	— 20.	56	34 45	8 07½	30,2	60	54	East.	Little wind, and fine weather.		
—	— 21.	57	35 31½	8 37	30,2	59	55	East.			
—	— 22.	56	36 48	9 06	29,85	59	57½	East.	Brisk wind, and cloudy.		
—	— 23.	57	37 09.	9 45	29,95	59	57	N. E. by E.			
—	— 24.	54	36 39.	11 43½	30,1	57	57½	West.	Brisk wind, and cloudy.		
○	— 25.	54½	35 26	14 08	30,25	56½	57	S. S. E.			
—	— 26.	57	34 43	15 37	30,05	58½	56½	S. S. E.	Moderate wind, and cloudy.		
♂	— 27.	57	33 47	16 50	30,0	61	60	S. S. E.	Ditto, fair weather.		
♂	— 28.	60	33 38	17 49	30,0	62½	59½	S. W.	Ditto.		
♂	— 29.	60	33 51	19 9	29,85	60½	58	N. W.	Ditto.		
♀	— 30.	56	In Table Bay, at the Cape of Good Hope, Lat. 33° 55½ S. Long. 18° 23½ E.								
○	Nov. 22.		33 55	18 23		60		N. by W.	Brisk wind, and fine weather.		
—	— 23.		34 34	17 42		65		N. W.	Strong gales, and flying clouds.		
♂	— 24.		35 20	17 51		63½		S. E.	Ditto.		
♂	— 25.		37 14	16 53	30,0	63	62½	S. E. ½ E.	Ditto.		
♂	— 26.	62	39 0	15 48	29,9	69	60	N. E.	Brisk wind, ditto.		
♀	— 27.	51	40 01	16 40	29,95	52	53	W. by S.	Strong wind, ditto.		
♂	— 28.	53	40 55	16 36	29,8	59	52	N. N. W.	More moderate, and cloudy.		
○	— 29.	52	42 03	16 35	30,0	52½	53	N. W.	Strong wind, with rain.		
—	— 30.	52	42 26	17 43	29,8	55	52	Ditto.			
The water in Dr. Lind's wind-gage sunk 6-10ths of an inch in the squalls, and 0,35 in the intervals between them.											
♂	Dec. 1.	51½	43 14	17 53	29,9	51	46	W. N. W.	Strong wind, with rain.		
♂	— 2.	47		18 36	29,5	49	47	Ditto.			
♂	— 3.	47	44 27	18 32	29,4	48	46	N. W.	Strong wind, and fine weather.		
♀	— 4.	44	45 23½	18 02	29,5	45	42	W. N. W.	Gentle gales, and fine weather.		
♂	— 5.	44	47 09	17 31	29,75	46	40	N. by W.	Ditto, and cloudy.		

1772		Morn		Noon				Even	Wind	Weather &c
		Ther mo meter	Latitude South	Longitude East of Green wich	Baro meter	Ther mo meter	Ther mo meter			
O	Dec 6	36	48 23	17 34 ⁺	29,95	36	35	W S W		Gentle gales, and fine weather
D	7	38	49 49	17 04	29,7	42	38	North		Strong gales, with rain
S	8	38		17 54	29,8	39 ⁺	36	N W by N		Ditto, cloudy
S	9	33 ⁺	49 46	18 12	29,35	34	35	N W by W		Brisk wind, with snow
U	10	31 ⁺	51 04	18 40	29,55	35	34 ⁺	N by W		Little wind, with snow
S	11	31 ⁺	51 50	18 40	29,35	32 ⁺	33	N N W		Ditto, cloudy
S	12	32 ⁺	Cloudy	19 0	29,3	34	32	W by N		
O	13	30 ⁺	Cloudy	20 12	28,85	31	30	W N W		Ditto and much snow
D	14	30 ⁺	54 53	22 04	28,55	32	30	N by E		Light airs, and fair weather
S	15	28	55 02	22 30	28,55	31 ⁺	30 ⁺	Ditto		
S	16	31	55 0	22 22	28,55	31 ⁺	31 ⁺	W N W		Light airs, and foggy, with snow
U	17	31	55 21	23 30	28,65	31 ⁺	30 ⁺	N W		
S	18	31	54 59	24 40	28,7	31 ⁺	30 ⁺	N N W		Light wind, with snow
S	19	30	54 34	25 10	28,55	31 ⁺	31 ⁺	N W and N N E		Strong wind, with snow
O	20	32	54 11	27 27	28,55	34	31 ⁺	N N W		
D	21	32	54 07	28 27	28,6	34	31 ⁺	W N W		
S	22	32	54 52	29 01	28,6	31 ⁺	32	Ditto		
S	23	32	55 24	30 12	29,15	31 ⁺	33	N W by W		Little wind, and flying clouds
U	24	32	56 29	30 02	29,35	34	32	E N E		
S	25	31 ⁺	57 54	29 06	29,1	31 ⁺	31	South		Brisk wind and cloudy
S	26	31	58 30	26 22	29,35	32	31	Ditto		Little wind and cloudy
O	27	32	58 21	24 06	29,5	35	32	N W by W		Little wind and fair weather
Let down a Thermometer 160 fathoms below the surface of the sea it lay at that depth 25 minutes, and was seven minutes drawing up, when it was found to stand at 33 the same thermometer stood at 32 in the water at the surface, and at 31, in the open air										
D	28	30 ⁺	58 33	22 11	29,55	31 ⁺	31 ⁺	E by N		Brisk wind, with snow
S	29	31 ⁺	59 11	19 57	29,1	33	31	East		Little wind, with snow
S	30	32	59 22	18 25	28,9	34	32	E S E		Ditto, with rain
U	31	30 ⁺	59 55	15 45	28,95	33	32	S E		Strong wind, and cloudy
1773										
S	Jan 1	32	60 0	13 0	28,8	31	32	S S W		Brisk wind, with snow
S	2	31	59 21	10 06	29,45	32	31 ⁺	W by N		Ditto, and fair weather
O	3	31	59 23	11 24	29,3	32	31	E N E		
D	4	32	59 01	14 14	29,4	33	33	N N W		Strong wind, with snow
S	5	33	59 37	19 04	29,35	33	33	Ditto		
S	6	33	59 59	23 08	29,15	33	33 ⁺	N W by W		Moderate wind and cloudy
U	7	32 ⁺	60 36	27 1	29,05	34	32	W N W		Ditto, and thick snow
S	8	32 ⁺	61 20	31 20	28,95	34	33	Ditto		Ditto, and rain
S	9	32 ⁺	61 36	33 26	28,95	35	33	Ditto		
O	10	32 ⁺	61 57	34 30	29,2	34	33	N by W		
D	11	32 ⁺	63 19	35 46	29,2	34 ⁺	32 ⁺	North		
S	12	33	64 14	37 0	29,35	35	32	S S E		Moderate wind, and fair weather
S	13	34	64 14	39 43	29,4	40	33	S S W		
U	14	32	63 57	40 03	29,25	35 ⁺	33	S S E		

1773.		Morn.		Noon.			Even.	Ther- mo- meter.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baromet.	Ther- mo- meter.				
2	Jan. 15.	34	63 35	40 03	29.05	37	33	S. E.		
h	16.	34	64 32	39 53	28.9	35	34	Ditto.		
o	17.	32	66 34	40 02	28.95	32½	33	S. E. by E.	}	Brisk wind, with snow and sleet.
h	18.	33	65 58	40 02	28.9	34	33	S. W. by S.		
h	19.	33	64 29½	40 58½	29.1	35	33	S. E. by E.		Moderate wind, and cloudy.
h	20.	34	63 59	40 41	28.8	33	32½	Ditto.		Strong wind, with snow.
h	21.	33½	62 45	43 14	28.7	33½	34½	S. S. E.		Little wind, ditto.
h	22.	34	61 33	45 29	29.3	34½	35	South.		Ditto, and cloudy.
h	23.	34	60 02	48 36	29.15	35	34½	S. by E.	}	Strong wind, with snow and sleet.
o	24.	34	58 24	51 47	29.3	35	33	N. W.		
h	25.	34	58 08	52 0	29.15	35	34	E. N. E.		Strong wind, and foggy.
h	26.	34	57 22	53 57	29.3	34½	34½			Calm, with thick snow.
h	27.	33½	56 30	52 03	29.1	35	33	S. W. by W.		Gentle gales, and fair weather.
h	28.	33	54 32	53 09	28.1	36	33½	N. N. W.		Brisk wind, and flying clouds.
h	29.	34	52 28	54 12	29.0	37	34	N. by W.		Ditto, and cloudy.
h	30.	39	51 31	55 22	29.5	40	39	N. N. W.		Strong wind, with much rain.
o	31.	38	50 48	56 11	29.55	39	38	Ditto.	}	Brisk wind, with flying clouds.
h	Feb. 1.	41	48 32	59 03	30.05	42½	47	N. by W.		
h	2.	44	48 45	59 19	30.15	44	44	N. W.		Little wind, with drizzling rain.
h	3.	44	49 15	59 19	30.15	44	43	N. N. W.		Strong wind, with heavy rain.
h	4.	43	49 04	57 39	29.5	43½	43½	N. W.		Light winds, with cloudy weather.
h	5.	40	48 0	60 14	29.5	41½	40½	N. N. E.		Brisk wind, and fair weather.
h	6.	42	48 53	60 22	29.6	45	43	N. N. W.		Ditto, with slight showers.
o	7.	43	50 14	63 06	29.8	44	42½	N. W.		Light winds, and fair weather.
h	8.	44	50 14	65 11	29.5	43	43	N. E.		Ditto, thick fog and rain.
h	9.	43	50 17	65 27	28.7	43	41	N. N. E.		Strong winds, and much rain.
h	10.	39	49 54	66 0	29.4	40	40	N. W. by W.		Ditto, and fair weather.
h	11.	40	50 18	66 11	29.9	42	40	N. N. W.		Ditto, and foggy.
h	12.	38	50 41	69 06	29.5	40	37	Ditto.	}	Moderate, and cloudy.
h	13.	37	51 05	72 11	29.6	39	39	N. W.		
o	14.	38	51 39½	75 30	29.5	39½	38	Ditto.		
h	15.	37	52 13	79 18	29.6	38	39	S. W. by W.		
h	16.	36	52 32	81 22	29.6	37½	37	W. N. W.	}	Strong wind, with rain.
h	17.	36	52 54	85 10	29.5	37	37	Ditto.		
h	18.	37	52 52	88 52	29.55	40	37	W. by N.		
h	19.	36	52 38	92 0	28.85	38	38	S. W.		
h	20.	36	52 16	96 56	29.05	36	37	W. N. W.		Brisk wind, with snow.
o	21.	40	52 15	99 54	29.6	41	38	S. W.		Little wind, and fair weather.
h	22.	39	52 29	102 49	29.0	38	40	E. N. E.		Brisk wind, and rainy weather.
h	23.	39	52 17	104 16	28.5	41½	39	N. W. by N.		Ditto, and squally.
h	24.	40	52 07	106 49	28.5	43	41	N. W.		Gentle breezes, and fair weather.
h	25.	41	51 41	110 30	29.45	45	40	W. N. W.		Brisk wind, and flying clouds.

This evening we saw the Southern lights for the first time: they were so bright that large print might have been read by their light.

METEOROLOGICAL OBSERVATIONS

1773	Morn	Noon				Even	Winds	Weather &c
		Latitude South	Longitude East of Greenwich	Barometer	Thermom			
Feb 26	43	51 18	114 02	29.95	44	44	North	Brisk wind and hazy
Feb 27	45	50 47	117 59	29.45	43	45	N N W	Ditto and drizzling rain
Feb 28	43	50 24	122 30	29.45	43½	44	W N W	Ditto, and flying cloud
March 1	47	49 02	126 0	29.65	49½	46	N N W	Ditto, in squalls
March 2	52	47 29	129 0	29.75	52	52	N W	Ditto, with thick drizzling weather
March 3	53	46 18	130 15	29.65	53	52	N N W	Brisk wind, and flying clouds
March 4	49	44 48	132 15	29.5	51	51	S W	Ditto and fair weather
March 5	52	44 3	134 40	29.75	56	52	West	Brisk wind, and squally weather
March 6	53	43 57	138 0	29.6	52	51	W S W	Ditto
March 7	51½	43 46	141 40	29.75	52½	55	W by N	Brisk wind, and fine weather
March 8	54½	43 41	144 06	29.9	55	52	West	Moderate wind, and fine weather
March 9	55	43 46	145 37	30.0	57	54	N N W	Strong wind, and drizzling rain
March 10	57	43 40	147 20	29.55	54	53	W S W	Ditto
March 11	56	43 23	147 30	29.95	57	52	W N W	Brisk wind, and fine weather
March 12	57	In Adventure's Bay, at Van Diemen's Land				58	N by W	Little wind and fine weather
March 13	55½					57	W by S	
March 14	57					58½	S S L	
March 15	56	43 23	147 30	29.72	57	57		
March 16	52	43 00	147 40	29.5	56	51	Ditto	Brisk wind with rain
March 17	53	43 08	148 26	29.65	55	53	W by S	Brisk wind and cloudy
March 18	53	41 44	148 11½	29.8	54½	52	W by N	Brisk wind and drizzling rain
March 19	53	40 22	148 08	29.95	54½	52	S S W	Moderate wind and fine weather
March 20	57	39 21	148 33	30.05	59	54	S S E	Moderate wind, and cloudy
March 21	60	39 22	150 13	30.01	61	56	South	Strong wind with rain
March 22	58	39 16½	151 43	30.15	59½	57	S by L	Brisk wind and cloudy
March 23	57	39 28	152 58	30.05	53	57	South	Brisk wind, and squally
March 24	55	39 08	154 25	30.05	54	54	Ditto	
March 25	57	38 58	155 27	30.05	58	53	Ditto	
March 26	61	39 21	157 37	30.2	60	60	Ditto	
March 27	61½	40 06	159 44	30.25	61½	59	Ditto	
March 28	62	40 14½	161 06	30.1	61	60	S W	
		40 16	161 36	30.4	64	61	S W	
Let down a thermometer to the depth of 140 fathoms and on drawing it up found it stand at 56°; it stood at 64° in the open air, and at 59° in the water at the surface								
March 29	61	40 42	163 07	30.5	64	62	North	Brisk wind and fine weather
March 30	62	41 14	164 49	30.45	64	64	N by E	Ditto
March 31	64	41 33	166 47	30.35	64½	62	North	Brisk wind, and much rain
April 1	63	41 31	168 35	30.05	63½	62	N N W	Moderate wind, and fine weather
April 2	62	41 17	170 45	29.7	62	61	N by W	
April 3	62	40 40	171 45	29.6	62	60	N N W	
April 4	63	40 16		29.65	66	62	East	
April 5	63	40 53		29.8	61½	61	S W by S	
April 6	63	41 04½	173 56	30.15	61½	57	N W	

1773.		Morn.		Noon.				Even.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.			
April	7.	54	41 05 47 In Q. Charlotte's Sound.	173 56	30,4	58	56	South.		
"	8.	52			30,1	58	55			Moderate wind, and fair wea- ther.
"	9.	54			29,8	61	55			
"	10.	54			29,85	56	66			
"	11.	52½			30,1	56½	63	South.		Brisk wind, and flying clouds.
"	12.	54			30,1	62	56	N. N. W.		Ditto, and fair weather.
"	13.	57			30,14	58½	54	N. by W.		Moderate wind, and fair wea- ther.
"	14.	53			30,0	59	56	Ditto.		
"	15.	52			29,92	57	54	S. by W.		Strong wind, and cloudy.
"	16.	56			30,03	53	54	S. S. W.		Little wind, and fair weather.
"	17.							Ditto.		Strong wind, and ditto.
"	18.							Ditto.		Ditto, and rain.
"	19.							Ditto.		Ditto, and cloudy.
"	20.							Ditto.		Ditto, and fair weather.
"	21.	53			29,77	59	59	S. W. by S.		Moderate wind, and ditto.
"	22.	53			29,55	53½	52½	W. S. W.		
"	23.	51			29,64	51	51	Ditto.		Brisk wind, with rain.
"	24.	49½			29,82	54	50	Ditto.		
"	25.	57½			29,9	58	57	West.		Moderate wind, and fine wea- ther.
"	26.	58			29,92	58½	56	N. E.		
"	27.	44			30,04	57½	54	S. S. W.		
"	28.	51			30,0	56	54½	Ditto.		
"	29.	49½			30,14	54	50	Ditto.		Moderate wind, and fair wea- ther.
"	30.	50½			30,24	54	51½	Ditto.		
May	1.	56			30,36	59	54½	N. by E.		
"	2.	49			30,33	54½	55	S. S. W.		
"	3.	47			30,27	57	45½	N. N. E.		Moderate wind, with rain at times.
"	4.	53½			29,96	59	49	W. by N.		Ditto, and fair weather.
"	5.	57			29,7	57	53	Ditto.		Strong wind, with rain.
"	6.	48			30,27	54	56	S. W. by S.		Scarce any wind, and very fine.
"	7.	51½			30,31	59	56	N. W.		
"	8.	52½			30,06	57½	56½	W. by N.		
"	9.	57½			30,03	58½	54	S. S. W.		Brisk wind, and fine weather.
"	10.	56			29,81	58½	56½	S. W. by W.		
"	11.	47			30,01	48	47	S. S. W.		
"	12.	54½			30,28	52½	49	W. N. W.		Gentle breezes, and very fine weather.
"	13.	45			30,15	52	49	S. S. W.		
"	14.	48			30,32	51½	52	N. E.		
"	15.	47			30,24	58	57	N. by W.		Strong wind, and flying clouds.
"	16.	57			29,75	58½	48	Ditto.		Ditto, with rain.
"	17.	51			29,63	46½	43	W. S. W.		Ditto, with heavy showers.
"	18.	52			29,5	58	47½	S. S. W.		
"	19.	40			29,7	51½	48	Ditto.		Gentle breezes, and fine wea- ther.
"	20.	50			30,02	56	45	East.		

1773	Morn		Noon			Even		Wind	Weather, &c
	Ther- mo- meter	Latitude South,	Longitude East of Green- wich	Baro- meter	Ther- mo- meter	Ther- mo- meter	Ther- mo- meter		
May 21	54			30,02	57	44	East		
22	49			29,86	49	47	N N E		Gentle breezes, and fine weather
23	48			30,25	49	50	S W by W		
24	49			30,2	54	49	S S W		
25	49			30,1	57½	48	N by E.		Brisk wind, and thick, with rain
26	49½			29,6	57½	47	E by N		
27	47			29,65	57	49	N W		Brisk wind, with rain
28	49			29,66	58	48½	N E		
29	48			29,75	58	49	Ditto		Moderate wind, with flying clouds
30	59½			29,81	59½	52	West		
31	57			30,1	49½	51	S S W		Ditto, with drizzling rain
June 1	56			30,3	56	50	Ditto		
2	52			30,19	58	56	Ditto		Ditto, and fair weather
3	53			30,3	58	51	S W		
4	54			30,41	59½	49	S S W		Brisk wind, and cloudy
5	57			30,41	49½	47	Ditto		
6	52			30,3	56	47	Ditto		Strong wind, with rain
7	49½	41 3½	174 04	30,05	56	48	Ditto		
8	49½	41 53½	174 48	29,7	51½	47½	N W		Brisk wind, and fair weather
9	55	42 50	176 48	29,55	52½	48	Ditto		
10	53	43 57	179 26	29,5	57	47	N N W		Gentle gales, and flying clouds
11	52	44 45	181 06	29,7	57	48	N by W		
12	51½	45 45	183 49	29,6	54	47	N N W		Brisk wind, with thick weather
13	50	46 29	184 0	29,85	52	49	E S E		
14	49	46 43½	185 14	29,6	48½	48	W S W		Little wind, and hazy
15	54	46 45½	186 07	29,75	49	47	N E. by E		
16	48	47 23	186 32	30,0	50	49	F by S		Brisk wind, with rain
17	48	46 21	186 32	29,8	49	47½	E S E		
18	49	45 50	188 44	29,95	49	47	S S E		Brisk wind, and hazy
19	47½	45 12	190 46	30,1	50	47½	W S W		
20	48	44 30	193 27	30,2	49	49	S E		Brisk wind, and flying clouds
21	50	44 17	194 52	30,15	51½	50	W S W		
22	51	44 32	190 32	30,15	52	49	W by S		Little wind, and cloudy
23	49	44 37	197 32	30,0	50	48½	N W by N		
24	47	43 42	197 37	29,7	52½	49	East		Strong wind with rain
25	54	43 13	197 12	29,5	54	49	E by N		
26	52	43 5	196 37	29,3	55	48	N E by N		Brisk wind, and cloudy
27	52	42 23	196 37	29,35	53	51	S E by E		
28	52	42 24	197 44	29,35	53	50	West		Ditto, with drizzling rain
29	53	42 46	199 0	29,35	53	52	N E		
30	51	43 0	200 25	29,45	52	50	South		Ditto, and fair weather
July 1	49	43 06	202 19	29,65	50	50	S by E		
2	49	42 59	203 40	29,75	51	50	S S E		Gentle breezes, and hazy
3	48	43 13	205 03	29 8	53½	41	N N W		
									Brisk wind, and flying clouds

1773.		Morn.		Noon.				Even.		Wind.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.	Wind.	Weather, &c.		
○	July	4.	49	43 57	205 52	29.9	50½	48½	E. by S.		Brisk wind, and flying clouds.
○	—	5.	49	43 24	208 09	29.95	47½	47			Strong wind, and squally, with rain.
○	—	6.	52	42 05	208 43	29.75	52½	49			Brisk wind, and flying clouds.
○	—	7.	52	41 18½	209 05	29.5	53½	49½			Little wind, and fair weather.
○	—	8.	52	41 59	210 49	29.5	51½	48½	West.		Fresh gales, and squally.
○	—	9.	52½	42 38	212 33	29.9	51½	52½	W. S. W.		Gentle gales, and flying clouds.
○	—	10.	53½	43 38	215 43	30.0	51½	51½			Brisk wind, and squally.
○	—	11.	46	43 30	217 33	30.15	47	46	S. by W.		Gentle gales, and flying clouds.
○	—	12.	47	43 13½	219 19	30.3	51½	49	S. S. W.		
○	—	13.	55	42 57½	220 20	30.35	52	48½	West.		Little wind, and fair weather.
○	—	14.	49	42 50	221 32	30.05	50½	47½	N. E.		Brisk wind, and cloudy.
○	—	15.	50	42 30	221 23	29.1	52	47½	E. N. E.		Strong wind, with drizzling rain.
○	—	16.	48	41 23	223 0½	29.4	50½	47½	S. S. W.		Brisk wind, with hail and rain.
○	—	17.	45	39 42½	225 04	29.8	44	46	S. W. by S.		
○	—	18.	46	37 51½	225 29	30.25	50½	47	S. W.		Gentle gales, and fair weather.
○	—	19.	53	36 30	225 39	30.2	54½	54	S. S. W.		
○	—	20.	54	35 19	225 36	30.15	55	53	S. E.		Brisk wind, and flying clouds.
○	—	21.	58	32 45	224 36	29.6	59	57	East.		Strong wind, with rain.
○	—	22.	62	31 03	224 36	29.75	64	63	S. S. W.		Brisk wind, with showers.
○	—	23.	62	29 21	224 13	29.9	64	64	N. W. by N.		Moderate wind, with drizz. rain.
○	—	24.	64	29 43	222 49	29.9	65	65	N. N. W.		Strong wind, and much rain.
○	—	25.	66	29 46	223 05	29.65	64	66	N. W.		Brisk wind, ditto.
○	—	26.	66	28 53	225 14	30.0	68	67	N. W. by W.		Moderate wind, and fair weath.
○	—	27.	67	27 55	225 14	30.0	69	67	W. S. W.		Little wind, and ditto.
○	—	28.	67	27 42	224 40	30.1	69	68	N. by W.		
○	—	29.	67½	27 31	223 50	30.0	70	69	N. W.		Little wind, and fair; rain in the night.
○	—	30.	69	27 03½	224 44	30.0	71	68	N. N. W.		
○	—	31.	69	26 19½	225 09	29.75	67	67	W. by N.		Brisk wind, with showers.
○	Aug.	1	68	25 11	225 57	29.8	67	66	W. N. W.		
○	—	2	67	23 14	226 11	30.05	70	68	W. by S.		Moderate W. with flying clouds.
○	—	3	71	22 11	226 59	30.15	72	67	West.		Little wind, and fine weather.
○	—	4	72	21 22	227 10	30.05	75	75	Ditto.		
○	—	5	73	20 39	227 50½	30.15	77	77	N. W.		Little wind, and cloudy.
○	—	6	76	19 46	228 35	30.05	77	78	West.		
○	—	7.	78	18 52	227 21	30.15	71	76	E. S. E.		Brisk wind, and cloudy.
○	—	8.	76	18 04	224 47	30.05	76	75	Ditto.		
○	—	9.	75	17 41	222 36	30.25	75	74	E. by S.		Gentle gales, and flying clouds.
○	—	10.	75½	17 23	220 33	30.25	78½	75	Ditto.		
○	—	11.	77½	17 16½	218 29	30.1	79	76	East.		Gentle gales, and hazy.
○	—	12.	77	17 10	216 10	30.0	79½	77	E. by S.		
○	—	13.	78½	17 15	215 11	30.1	80	78	Ditto.		Little wind, and fair weather.
○	—	14.	79	17 18	212 50	30.0	79½	77	Ditto.		
○	—	15.	78½	17 46	211 05	30.05	80	77	Ditto.		Little wind, and fair weather.
○	—	16.	78½	17 46		30.1	82	84	S. by E.		

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1773	Morn		Noon		Even		Wind	Weather &c
	Ther mo meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mo- meter	Ther mo meter		
Aug 17	81	17 39 ¹		30,0	82	82	East	Little wind, and cloudy
18	84	17 44 ¹	210 36	30,05	82	81	Ditto	Ditto and fair weather
19	83	In Oaitipeha Bay, on the N W side of the lesser peninsula of Ota heite		30,1	82	81	Ditto	Brisk wind, with showers
20	82			30,0	82	80	E by S.	Brisk, and flying clouds
21	80 ¹			29,95	81 ¹	77	N E	
22	78			29,85	81	79	N N W	
23	77	17 24 ¹ 210 34 In Matavi Bay, Otaheite		30,0	78	78	W by S	Moderate wind, with showers
24	75			30,05	75	77	S W by W	
25	74			30,0	80 ¹	78	E S E	
26	72			30,1	81 ¹		Ditto	
27		17 29	210 23				Ditto	Light winds, and fine weather
28							Ditto	
29							Ditto	
30							Ditto	
31							Ditto	
Sept. 1							West	
2	76 ¹	16 59 ¹	209 38 ¹	30,0	77	75	S E	Gentle breezes, and fine weather
3	75	16 45	209 0	30,0	77	76	Ditto	
4	76	At anchor in Owa harre Harbour, in Huaheine		30,1	78	77	E S E	
5	77			30,0	79 ¹	79	Ditto	
6	77 ¹			30,0	78	77	Ditto	
7	77 ¹	16 59 ¹		30,05	80	77	Ditto	
8	78	16 45 ¹	208 35	30,0	81	78	Ditto	Little wind, and drizzling run
9	77 ¹			30,0	80 ¹	78	Ditto	
10	76			30,1	82 ¹	81	Ditto	
11	77	At anchor in Oha manens Harbour, in Uliateah		30,0	82	82	W S W	
12	76			30,0	77	80	E S E	
13	76 ¹			30,16	78	80	Ditto	
14	77			30,14	77	75	E by N	
15	74 ¹			30,13	77	76	E by S	Brisk wind, and flying clouds
16	75 ¹			30,11	77	75	E S E	
17	76 ¹	16 50 ¹	208 11	30,05	78	78	Ditto	
18	76 ¹	17 16	207 02	29,9	78	77	E by S	
19	77 ¹	17 40	205 58	29,95	78	78	East	
20	76 ¹	18 02	204 50	30,0	80	77	E by N	Moderate winds, and showers
21	78 ¹	18 24	204 25	29,9	80	76	N W	
22	78	18 40	203 31	30,0	77	76	S S E	
23	72 ¹	19 06	201 58	30,0	74	72	S E by S	
24	73 ¹	19 28 ¹	200 20	30,05	74	72	F S E	
25	74 ¹	19 52	197 40	30,05	74	73	Ditto	
26	73	20 25	95 26	30,95	73	71	Ditto	Brisk wind, and cloudy
27	70 ¹	20 39	193 09	30,95	72	70	Ditto	
28	72	21 04	190 03	30,0	74	72	E by S	

1773.	Morn.		Noon.				Even.		Wind.	Weather, &c.
	Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.	Ther- mo- meter.				
Sept. 29.	72	21 28 $\frac{1}{2}$	188 36	30,1	72	71	E. by S.	Moderate wind and flying clouds.		
30.	70 $\frac{1}{2}$	21 12		30,0	70	68 $\frac{1}{2}$	S. E. by E.			
Oct. 1.	69	21 20 $\frac{1}{2}$	185 40	30,0	72	69	Ditto.	Moderate wind, and cloudy.		
2.	70 $\frac{1}{2}$	21 21 $\frac{1}{2}$		30,15	71 $\frac{1}{2}$	68 $\frac{1}{2}$	E. N. E.			
3.	71	21 04		30,0	71 $\frac{1}{2}$	72	Ditto.	Ditto.		
4.	70 $\frac{1}{2}$	21 4	185 10	30,05	72 $\frac{1}{2}$	70	Ditto.			
5.	66 $\frac{1}{2}$	{ At Tongatabu, one of the Friendly Islands. }			30,0	71	70	E. by N.	Brisk wind, with showers.	
6.	67	21 4 $\frac{1}{2}$		29,95	73	71	Ditto.	Gentle gales, with clouds.		
7.	69	21 4 $\frac{1}{2}$		30,0	71 $\frac{1}{2}$	71	E. S. E.			
8.	71	22 1 $\frac{1}{2}$	185 02	29,95	71 $\frac{1}{2}$	70	S. W. by S.	Little wind, and cloudy.		
9.	70	22 25 $\frac{1}{2}$	185 28	30,0	71	69	S. S. W.			
10.	69	22 45	184 15	30,05	69	67	S. E. by S.	Brisk wind, and fair weather.		
11.	67	23 54	183 0	30,0	68	67	S. E. by E.			
12.	68	25 31	181 43	30,2	68	66	East.	Moderate wind, and ditto.		
13.	67	27 11 $\frac{1}{2}$	180 56	30,2	68	67	E. by S.			
14.	66	28 42	180 14	30,1	66	65	East.	Moderate wind, and cloudy.		
15.	65 $\frac{1}{2}$	30 15	179 47	30,2	67 $\frac{1}{2}$	65	E. by N.			
16.	64	31 38 $\frac{1}{2}$	179 45	30,2	66 $\frac{1}{2}$	65	East.	Moderate wind, and fine weather.		
17.	65	32 43	179 58	30,2	67 $\frac{1}{2}$	65 $\frac{1}{2}$	N. E.			
18.	65	33 47 $\frac{1}{2}$	180 05	30,0	67	64 $\frac{1}{2}$	N. N. E.	Light winds, and fair weather.		
19.	64 $\frac{1}{2}$	35 54 $\frac{1}{2}$	180 21	29,15	65 $\frac{1}{2}$	64	North.			
20.	58	37 44 $\frac{1}{2}$	179 45	29,65	60	59	West.	Brisk gales, with rain.		
21.	58	39 06 $\frac{1}{2}$	178 26	29,25	64	60	N. W.			
22.	56	40 15	176 30	29,2	59	57	North.	Strong wind, in squalls.		
23.	55	40 53 $\frac{1}{2}$	176 05	29,55	56	56	S. S. W. $\frac{1}{2}$ W.			
24.	56	41 30	175 28	29,3	61	55 $\frac{1}{2}$	W. N. W.	Strong wind, and cloudy weather.		
25.	54	42 18	174 58	29,25	60	56	N. W.			
26.	55	42 33	174 42	29,6	54 $\frac{1}{2}$	51	South.	Ditto, and fair weather.		
27.	54 $\frac{1}{2}$	42 17	174 33	29,65	56	54	N. W.			
28.	54	42 18	175 10	29,25	56	54	Ditto.	Moderate wind, and ditto.		
29.	53 $\frac{1}{2}$	41 50	175 33	29,65	53	53	W. by N.			
30.	54	41 53	175 29	29,55	60	54	N. W.	Strong wind, and hazy.		
31.	59	42 32	175 41	29,7	64 $\frac{1}{2}$	55	N. N. W.			
Nov. 1.	58	42 52	175 45	29,15	61	54	N. N. W.	Ditto, and fair weather.		
2.	58	41 37	176 0	29,65	57	52	W. by N.			
3.	53	41 20	175 30	29,75	53	54	S. S. W.	Little wind, and rain.		
4.	54	41 40	175 0	29,7	60 $\frac{1}{2}$	59	N. W. by W.			
5.	56	41 34	175 10	29,65	51	54	S. W.	Strong wind, and heavy rain.		
6.	54	41 37	175 57	29,6	52	53	South.			
7.	53	39 41	177 25	29,75	53	53	S. by W.	Ditto, with hail and rain.		
8.	60	39 01 $\frac{1}{2}$	177 51	29,75	63	54	W. by N.			
9.	56	38 21 $\frac{1}{2}$	178 33 $\frac{1}{2}$	29,65	57	57	S. by W.	Moderate wind, and fair weather.		

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1773	Morn	Noon				Even	Wind	Weather &c.	
	Ther- mo- meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mo- meter	Ther- mo- meter			
Nov 10	59	At anchor in To- laga Bay			29,85	57	S S E	Moderate wind, and fair weather	
11	56				29,8	57	South		
12	56				30,1	59	S E		
13	52				30,1	58	S E by E		
14	57				30,2	61	E S E	Strong wind, and squally	
15	56				29,95	60	S S E		
16	54		38 31	178 37	29,65	64	60	N N E	Moderate winds, and fair weather
17	62		39 42	178 07	29,6	67	62	N W	
18	63		39 59	177 45	29,6	68	67	W N W	
19	62		40 39	177 09	29,55	68	62	{ N W W by S }	
20	64	41 03	175 50	29,8	56	55	Variable	Little winds, and cloudy	
21	54	41 05	175 40	29,75	55	54	South		
22	52	41 04	176 25	30,1	55	55	S S W	Strong wind, with rain at times	
23	58	40 54	175 53	30,2	61	56	S E		
24	57	41 36	175 0	30,3	61	65	N E	Moderate wind, with flying clouds	
25	56			30,0	56	57	N N W		
26	56			30,15	58	56	Ditto	Little wind, and fair weather	
27	56	41 57	174 45	29,9	61	57	Ditto		
28	58			30,2	62	56	Ditto	Strong wind, and hazy	
29	57	42 07	174 50	29,85	60	56	S W		
30	54			30,15	57	55	S by W	Moderate wind, with rain	
Dec 1	56			30,22	63	56	South		
2	56			30,08	66	57	N W	Moderate wind, and fine weather	
3	57			30,02	67	56	Variable		
4	56			29,8	59	54	N N W	Squally, with drizzling rain	
5	54	On shore in Queen Charlotte's Sound		29,8	69	59	North		
6	55			29,7	68	66	Variable		
7	57			29,96	68	68	N W	Strong wind and much rain	
8	51			30,46	69	69	N N W		
9	59			30,4	69	68	W N W	Moderate wind, and fair weather	
10	64			30,57	69	64	Variable		
11	60			30,48	73	69	N W	Little wind, and fair weather	
12	63			30,39	73	65	Ditto		
13	61			30,30	73	65	Ditto	Little wind, and fine weather	
14	61			30,38	74	73	Variable		
15	59		30,26	64	61	N N E	Moderate wind, and cloudy		
16	57		30,20	65	72	S S W			
17	54		30,0	66	59	N E	Gentle breezes and fair weather		
18	65		29,92	64	59	N W			
19	61		29,96	66	60	Variable	Brisk wind, and squally		
20	61		29,94	65	62	N N E			
21	61		29,65	63	64	N W by N	Gentle breezes, and fair weather		
22	65		29,8	65	65	Ditto			
								Strong gales in squalls, & cloudy	
								Brisk gales, and hazy	

1773.	Mon.	Noon.					Even.	Winds.	Weather, &c.
		Ther- mo- meter.	Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.			
4 Dec.	23.	64	42 25½	175 10	30,1	66	65½	N. W.	Little wind, and fine weather.
2	24.	61½	43 0½	175 0	30,15	64½	62	E. N. E.	
5	25.	59½	44 39	175 56	30,2	62	61½	N. E.	Little wind, and foggy.
0	26.	57	45 43	176 59	29,	57	60	S. by E.	
3	27.	57	46 25	177 44	29,75	58	56	Ditto.	Little wind, and foggy, with drizzling rain.
6	28.	52	47 05	178 32	30,05	54	54	Variable.	
9	29.	52	48 07½	178 56	29,9	54	54	N. E. by E.	Brisk wind, and cloudy.
2	30.	51	49 33	179 37	29,4	56	51	Variable.	Little wind, and thick fog.
5	31.	50	50 36	179 50	28,95	48	50	S. S. E.	Strong wind, and much rain.
1774.									
5 Jan.	1.	45	50 37	180 55	29,75	46	41	South.	Brisk wind, and flying clouds.
0	2.	41	51 37	183 11	30,05	48	42	W. by S.	Ditto, and cloudy.
3	3.	49	53 11	186 18	29,7	49½	49	West.	Strong wind, and thick, with rain.
6	4.	49	54 41	189 27	29,25	46	46	Ditto.	Moderate wind, and heavy rain.
9	5.	43	55 29	192 42	29,4	46	45	W. S. W.	Brisk wind, and flying clouds.
2	6.	38½	56 27	196 7½	29,4	41	40	S. by W.	Ditto, with squally weather.
5	7.	38	56 57	199 42½	29,6	38	37	Ditto.	Ditto, with sleet.
8	8.	38	57 06	202 47	29,7	40	36½	S. by E.	Moderate wind, with showers.
0	9.	36	57 29	206 06	29,65	38	37	S. S. W.	
3	10.	37½	57 56	208 48	29,25	37½	36	W. by S.	Little wind, and thick, with rain.
6	11.	35	58 18	212 47	28,65	36	36	W. S. W.	Moderate wind, with snow at times.
9	12.	35	58 40½	215 20	28,5	38	36	S. W.	Light winds, and cloudy.
2	13.	36	58 45	216 39	28,55	41	37	Variable.	Ditto, with snow.
5	14.	37	58 45	217 50	28,55	37	38	W. S. W.	Little wind, with drizzling rain.
8	15.	39½	58 48½	221 46	29,0	38½	38½	West.	Brisk wind, with snow at times.
0	16.	39	58 50½	225 40	29,5	40	40	Ditto.	Brisk winds, with snow.
3	17.	39	59 51	229 31	29,7	43	41	Ditto.	
6	18.	39	59 11	234 37	29,4	41	41½	N. W.	Strong wind, with showers.
9	19.	42	59 25	241 05	28,75	41	40	W. N. W.	Ditto, and flying clouds.
2	20.	43	59 52	245 39	28,45	41½	42	N. N. W.	Moderate wind, and thin clouds.
5	21.	38	60 9½	247 20	28,35	41½	40	S. E. by S.	Little wind, and cloudy.
8	22.	40	59 31	249 07	28,75	42½	40	S. & E.	Little wind, and flying clouds.
0	23.	40	59 15	251 54	28,5	42	41	S. by E.	Brisk wind, and squally at times.
3	24.	41	59 33½	255 26	28,85	38½	40		Little wind, and hazy.
6	25.	43	60 18	259 30	29,2	43	42	North.	Brisk wind, and very hazy.
9	26.	41½	60 48	263 02	29,55	43	42	N. N. W.	Brisk wind, and foggy, with rain.
2	27.	41	61 13	266 45	29,3	41½	41½	N. W.	Little wind, and very foggy.
5	28.	41	61 46	270 50	29,05	42	41	W. N. W.	Brisk wind, and foggy at times.
8	29.	41	61 50	275 34	29,3	42	42	N. N. W.	Ditto, and cloudy, with showers.
0	30.	43½	61 34½	280 40	29,35	41	41½	W. N. W.	Brisk wind, and fair weather.
3	31.	41	61 20	287 44	29,4	39½	41½	N. W. by N.	Moderate wind, and heavy rain.
6 Feb.	1.	41	61 02	291 31	29,4	41	41½	W. N. W.	Brisk wind, and thick, with rain.
9	2.	41	60 41½	295 55	29,25	42	41	Ditto.	Moderate wind, and cloudy.
2	3.	41	60 36	302 47	29,6	41	41	W. by N.	Brisk wind, with rain.

1774.	Morn	Noon				Even	Winds	Weather &c
		Ther mo meter	Latitude South	Longitude East of Green wich	Baro- meter	Ther- mo- meter		
Feb. 4	36	60 32	307 06	29,65	39	37	N W	Moderate wind, and hazy
5	37	60 18	310 58	29 55	37	37	N N W	
6	36½	60 16	312 40	28,9	38	35	E N E	Brisk winds with snow at times
7	35	59 17	315 02	29,35	41	36	S E	Little winds and hazy
8	37	58 30	317 20	29,8	37½	37	N W	Brisk winds ditto
9	35	57 20	320 18	29,85	37½	38	S W	Moderate wind, and foggy
10	39½	56 58	322 3	30,05	41½	38½	N N W	Ditto, and cloudy
11	39	56 22	324 24	29,85	41	39½	Ditto	
12	41	55 28	325 47	29,3	40	36½	N W by W	Strong wind, with drizzling rain
13	38	54 38	327 56½	29,35	41	39	N W	Brisk wind, with thick fog
14	38½	54 22	330 0	29,6	42	40	N N W	Little wind, ditto
15	39	54 11	333 0	29,3	40½	39	N W	Brisk wind, ditto
16	38½	54 02	336 09	29,2	39½	38½	S E	Moderate wind, & foggy, with rain
17	39	54 10	338 57	29 55	38	38	N E	Moderate wind and thick clouds
18	40	54 12	340 16	29 35	40	40	North	Little wind, foggy with rain
19	39	54 0	341 57	28 95	40	37	E S E	Brisk wind, and foggy weather
20	36	53 20	343 56	29 65	37	38	S W by S	Ditto, cloudy
21	39	53 24	346 50	29,1	39½	38½	W S W	Ditto, squally
22	37	53 11	349 37	29,95	40	39	West	Light winds, and fine weather
23	38½	53 04	352 29	29,7	39	39	West	Brisk wind and thick weather
24	40	52 47	355 43	29 45	39	39½	W N W	Strong wind, and foggy
25	39	53 16	358 17	29,3	38½	38	West	Ditto, with snow
26	37	53 35	0 3	29,2	33	36	E S E	Little wind, ditto
Here, having made a complete revolution round the Globe 360° of Longitude were								
26	37	53 27	3 8	29,6	37	37	W by S	dropped, and a day repeated Saw the Southern lights, but not very bright
27	35	53 54	5 27	29 7	40	34	North	Brisk wind and fine weather
28	34	54 0	5 52½	29 0	35	36	E S E	Little wind and hazy
March 1	34½	53 46	7 41	29,15	35½	34	N W	Ditto, snow and rain
2	35	54 4	9 51	29 2	35½	34½	W N W	Brisk wind, snow and rain
3	34	53 18	11 40	29 45	40	34½	West	Ditto, cloudy
4	37	52 42	11 31	29,0	39½	36	N W by N	Ditto fair
5	37	50 44½	12 39	29,9	38	39	N N W	Strong wind and heavy rain
6	43	49 55	14 30	29,6	42	40	Ditto	Ditto, cloudy
7	38	48 32	14 1	29,85	41	39	West	Ditto, rain
8	38	47 37	13 52	29,95	40	38	N W by N	Little wind, and flying clouds
9	45½	45 41	14 27½	29 85	4 ½	46	W by N	Brisk wind, and cloudy
10	47½	43 14	14 50	29 7	40	49	W S W	Strong wind, with squalls of rain
11	47½	41 48	14 19	30,05	35	48	S S W	Brisk wind and flying clouds
12	61½	41 16	14 34	29,6	64	58	N N W	Little wind, and cloudy
13	64	39 59	15 14	29,6	60	61	W by N	Brisk wind with rain
14	64½	37 32½	16 4	29 7	65½	62	W S W	Little wind and fair weather
15	65½	35 31½	16 4	30 20	69	68	S W	Brisk wind, and ditto
16	67	34 37	16 51	30 05	69½	68½	E by S	Little wind, and fine weather

1774.	Morn. Ther- mo- meter.	Noon.				Even. Ther- mo- meter.	Winds.	Weather, &c.
		Latitude South.	Longitude East of Green- wich.	Baro- meter.	Ther- mo- meter.			
4 Mar. 17.	68 $\frac{1}{4}$	34 13	17 42	30,0	69 $\frac{1}{4}$	69	W. S. W.	Little wind, and fine weather.
2 — 18.	68 $\frac{1}{4}$	At the Cape of Good Hope.		29,95	61	67	N. E. by N.	Little wind, and thick fog.
1 — 19.	68			29,90	72	66	N. N. W.	Little wind, and clear.
0 — 20.	69			30,05	61	67	W. by N.	Strong wind, and squally weath.
1 — 21.	62			30,02	62	61	N. by W.	Little wind, and fine weather.
2 — 22.				29,96	70		East.	
3 — 23.				29,92	70 $\frac{1}{4}$		E. by S.	
4 — 24.				30,0	70		Ditto.	
5 — 25.				30,1	68		S. E.	Strong wind, and clear weather.
6 — 26.				30,04	68		N. W.	Little wind, and fine weather.
7 — 27.				30,11	65 $\frac{1}{4}$		Ditto.	Brisk wind, with rain.
8 — 28.				30,18	63		S. E.	Strong wind, and flying clouds.
9 — 29.				30,1	63 $\frac{1}{4}$		Ditto.	Ditto, and hazy.
10 — 30.				30,13	66		N. W.	Little wind, and fine weather.
11 — 31.				29,95	68		Variable.	
1 April 1.				30,0	68		North.	Little wind, and hazy.
2 —				30,06	65		E. by S.	
3 —				30,08	64 $\frac{1}{4}$		N. W.	Little wind, and fine weather.
4 —				30,08	67		Ditto.	
5 —				30,1	66		E. N. E.	Strong wind, and ditto.
6 —				30,0	72		S. E.	Strong wind, and hazy weather.
7 —				30,04	69		Ditto.	
8 —				30,04	67		Ditto.	
9 —				29,99	67		Ditto.	
10 —				29,89	67		Ditto.	Ditto, and fine weather.
11 —							Ditto.	
12 —							E. S. E.	Little wind, and cloudy.
13 —							N. W.	Brisk wind, and flying clouds.
14 —							Ditto.	Little wind, and fine weather.
15 —	66			30,1	67 $\frac{1}{4}$		E. S. E.	
16 —				30,1		72	N. N. W.	Little wind, and fine weather.
17 —	64	33 13	17 31	30,15	65	66	S. S. E.	
18 —	67	32 49	16 54	29,8	64	67	Variable.	Little wind, and much rain.
19 —	64	33 5	16 7	29,9	66	69	N. N. W.	Ditto, and flying clouds.
20 —	64	32 34	16 7	30,1	71	64	S. S. E.	Ditto, and fine weather.
21 —	63 $\frac{1}{4}$	31 13 $\frac{1}{4}$	14 20	29,85	70	65	Ditto.	Brisk wind, and ditto.
22 —	63 $\frac{1}{4}$	30 16	13 0	29,85	66 $\frac{1}{4}$	64	W. N. W.	Little wind, and ditto.
23 —	65	29 15	13 23 $\frac{1}{4}$	30,0	66	64	N. W. by W.	Ditto, and flying clouds.
24 —	66	27 44 $\frac{1}{4}$	11 43	30,0	66	65	South.	Brisk wind, and flying clouds.
25 —	65	26 13	9 36	29,9	67	66	E. S. E.	
26 —	66	24 57	8 28	30,0	69 $\frac{1}{4}$	67	S. S. E.	Little wind, and fine weather.
27 —	66	23 48	7 12	29,9	70	67	S. S. W.	
28 —	66 $\frac{1}{4}$	22 49	6 19	29,9	69 $\frac{1}{4}$	67	South.	
29 —	69 $\frac{1}{4}$	21 53	5 18	29,9	75	68	S. E. by E.	

1774	Ther- mo- meter	Noon				Ther- mo- meter	Winds	Weather &c
		Latitude South	Longitude East of Green- wich	Baro- meter	Ther- mo- meter			
h April 30	69	21 22	3 31	30,1	77	67	S E by E	Little wind, and fine weather
O May 1	69	20 52	2 40	30,1	74	69	S E	
h — 2	69	20 22	1 57	29,9	70	68	S W	
h — 3	69½	19 32	1 13	30,0	74	69	W S W	
h — 4	70	19 27	0 50	30,0	76	69	S S E	
h — 5	71½	18 47	0 0	30,05	73	69	S E	Brisk winds, and fine weather
h — 6	70	17 40	1 29	30,0	73	69	Ditto	
h — 7	71	16 49	2 37	29,95	75	69	S S E	
O — 8	71	15 48	3 38	30,0	74	69	S E	
h — 9	71	14 49	4 54	30,15	73	70	Ditto	
h — 10	73	13 22	6 34	30,15	75	71	Ditto	Brisk wind, and flying clouds
h — 11	74	12 2	8 8	29,8	77	72	S E by S	
h — 12	75	10 43	9 26	30,0	77	73	S S E	
h — 13	76	9 14	10 59	29,95	80	74	S E	
h — 14	75	7 55	12 30	30,0	80	77	Ditto	
O — 15	78	6 33	14 17	29,85	81	81	Ditto	Brisk wind, with showers
h — 16	78	5 14	15 45	29,9	82	82	Ditto	
h — 17	79	4 0	17 10	29,9	78	80	S E by E	
h — 18	78	2 35	19 2	30,0	81	80	S E	
h — 19	77	0 58	19 55	30,0	80	78	Ditto	
		North						
h — 20	76	0 21	20 35	29,9	80	77	S E by S	Gentle breezes, and fine weather
h — 21	77	1 24	21 0	30,0	80	78	S by E	
O — 22	80	2 54	21 32	29,95	82	80	S S E	
h — 23	79	4 5	22 1	30,0	83	80	N E	
h — 24	78	4 37	22 17	29,95	79	80	E S E	
h — 25	78	5 27	22 17	30,1	82	79	E by N	Light winds, and fine weather
h — 26	79	5 56	22 52	29,95	82	79	N E	
h — 27	77	5 59	24 34	30,0	81	79	Calm	
h — 28	75	6 11	24 57	29,9	81	80	S by W	
O — 29	75	6 38	25 33	29,95	79	75	Calm	
h — 30	75	6 41	25 0	30,0	76	75	Variable	Little wind, and heavy rain
h — 31	77	6 37	25 20	30,0	79	76	Ditto	
h June 1	79	6 48	24 57	30,0	81	78	Ditto	
h — 2	79	7 7	25 37	30,0	80	79	N N E	
h — 3	79	7 11	25 50	30,0	81	79	Ditto	
h — 4	78	7 39	26 45	30,0	80	78	N E by N	Little wind, and fair weather
O — 5	77	7 59	27 11	30,0	79	79	North	
h — 6	77	8 14	27 54	30,0	81	78	N E by E	
h — 7	78	9 15	28 51	30,0	80	79	Ditto	
h — 8	77	10 29	30 06	29,9	79	77	Ditto	
h — 9	77	11 51	31 12	29,95	79	77	Ditto	Ditto, and flying clouds
h — 10	76	13 18	32 31	30,05	77	76	N N E	

1774.		Morn. Ther- mo- meter.	Noon.				Even. Ther- mo- meter.	Winds.	Weather, &c.
			Latitude North.	Longitude West of Green- wich.	Baro- meter.	Ther- mon.			
h	June 11.	74	14 42	33 51	30,0	76½	75	N. E.	Brisk wind, and squally.
o	12.	74	16 23½	34 44	30,0	76	74	Ditto.	Ditto, and fine weather.
d	13.	73½	17 44½	35 37	30,0	75	74½	N. E. by E.	
h	14.	74	19 13½	36 16	29,95	77	75	E. by N.	Light winds, and flying clouds.
h	15.	75	20 49½	36 37	30,05	76	75	E. N. E.	Squally, with showers of rain.
u	16.	75	22 22	37 35	30,15	77½	76	N. E. by N.	Light winds, and cloudy.
h	17.	76	23 45	38 23	30,05	79	77½	N. E. by E.	Gentle breezes, and fair weather.
h	18.	76	25 9½	39 13	30,25	77½	76	Ditto.	
o	19.	75	26 34	39 11	30,2	77½	75	E. S. E.	Brisk wind, in squalls.
d	20.	75½	28 0	39 0	30,3	76½	75½	S. E.	Little wind, and thin clouds.
h	21.	74½	29 17½	39 24	30,25	76½	77	E. N. E.	Brisk gales, and squally.
h	22.	75	30 54	39 36	30,3	75	75	East.	Brisk wind, with showers.
u	23.	75	32 39½	40 05	30,3	74	74½	E. by N.	
h	24.	72½	34 23½	40 29	30,45	73½	74½	Ditto.	Gentle winds, and fine weather.
h	25.	71½	35 56	40 29	30,45	73½	73	Ditto.	
o	26.	71	37 12	40 20	30,35	72	72	E. S. E.	Little wind, and cloudy.
d	27.	71	37 45½	39 32	30,3	73	71	S. E. by S.	Gentle breezes, and fine weather.
h	28.	71	37 53	40 10	30,4	76	72	Variable.	
h	29.	72	38 40	39 40	30,4	74½	72½	W. N. W.	
u	30.	73	39 13	39 0	30,4	76	73	West.	
h	July 1.	73	40 6	37 24	30,3	74½	73½	N. W. by W.	Brisk wind, and cloudy.
h	2.	69	40 51	35 55	30,15	76	71	East.	Light winds, with rain.
o	3.	70	41 33	35 0	30,1	70½	71½	N. W. by N.	Brisk winds, in squalls.
d	4.	72	42 44	32 32	30,1	72	70	West.	Brisk wind, and cloudy.
h	5.	72	44 1	29 57	30,0	71	69	West.	
h	6.	67	45 45	27 18	29,8	65	66	S. W.	Strong wind, and squally.
u	7.	56	47 10	23 58	29,85	59	59	W. N. W.	Very strong wind, and ditto.
h	8.	57½	48 5½	20 41	29,9	58	57½	N. W.	Brisk wind, and fine weather.
h	9.	57	49 9	17 19	29,95	57	58	Ditto.	Strong wind, with heavy showers.
o	10.	57	49 22	15 55	29,95	58	57	Ditto.	Little wind, and cloudy.
d	11.	57	49 27½	11 31	30,1	61	56	Ditto.	Ditto, and fine weather.
h	12.	58	49 35½	8 1	29,9	60	54½	S. W.	Brisk wind, and thick rainy weather.
h	13.	57	50 6½	5 20	29,9	57	53	W. N. W.	Little wind, and hazy.
u	14.	55	At Spithead.		29,95	54	66	N. W. ÷ N.	Brisk wind, and squally.

ASTRONOMICAL OBSERVATIONS,

F O R

Determining the LATITUDE of the Ship and her LONGITUDE,

BY TWO WATCHES:

One made by Mr. KENDALL, on Mr. HARRISON'S PRINCIPLES,
and the other by Mr. ARNOLD.

Made on Board his M A J E S T Y 's Sloop RESOLUTION,

In her late Voyage on Discoveries towards the South.

1772.	Time by Watch K.		Time by Watch A. No. 3.		Altitude of the \odot 's L. L.	Longitude W. by K.	Longitude W. by A.	Latitude North.	Thermom.		No. of Wind.	Remarks.
	H	M	H	M					A.	B.		
July 12.	20	19 50 $\frac{1}{2}$	20	17 59 $\frac{3}{4}$	37 39 $\frac{3}{4}$	4 22 $\frac{1}{2}$	4 06 $\frac{1}{2}$	50 15 $\frac{1}{2}$	66	61	3	
" 13.		Noon.			61 28 $\frac{1}{2}$				65	61 $\frac{1}{2}$		
		5 24 21 $\frac{1}{2}$	5	22 15	22 56	4 34 $\frac{3}{4}$	4 15	49 44 $\frac{1}{2}$			4	
" 14.	20	10 14	20	7 5	35 38	5 4 $\frac{1}{2}$	4 23 $\frac{1}{2}$	49 11			5	
" 15.		Noon.			62 25			48 50	65	64		
		4 59 45 $\frac{1}{2}$	4	56 22 $\frac{1}{2}$	27 25 $\frac{1}{2}$			48 34 $\frac{1}{2}$			4	
" 16.		Noon.			63 37			47 28 $\frac{1}{2}$	63 $\frac{1}{2}$	61		
		4 53 25	4	49 21	29 23 $\frac{3}{8}$			47 14			3	
" 17.		Noon.			64 30 $\frac{1}{2}$			46 24 $\frac{1}{2}$	67	70		
	19	14 01	19	8 54	24 18 $\frac{3}{4}$			46 37 $\frac{1}{2}$			5	
		21 0 24			42 11						3	
		22 45 51			57 42						3	
" 18.	19	30 49	19	25 0	26 30 $\frac{3}{4}$			45 35 $\frac{1}{2}$	67	63	3	
" 19.		Noon.			65 12			45 20	66	64 $\frac{1}{2}$		
" 20.		Noon.			66 27 $\frac{1}{2}$			43 54	66 $\frac{1}{2}$	66		
" 21.		Noon.			66 40			43 30	67	66		
	19	57 50	19	49 48	29 51			43 41 $\frac{1}{2}$			2	
	21	50 4 $\frac{1}{2}$	21	41 52 $\frac{1}{2}$	49 47			43 40			5	
	22	18 11 $\frac{1}{2}$	22	10 5 $\frac{1}{2}$	54 25 $\frac{1}{2}$			43 38 $\frac{1}{2}$			3	
" 22.		Noon.			66 23			43 35	67	65 $\frac{1}{2}$		
		5 18 6 $\frac{3}{4}$	5	9 45 $\frac{3}{4}$	25 41			43 26		69	3	
	19	2 41	18	53 53 $\frac{1}{2}$	19 15 $\frac{1}{2}$			42 41 $\frac{1}{2}$			6	
" 23.		Noon.			67 28			42 18	65	64 $\frac{1}{2}$		
	19	17 13 $\frac{3}{4}$	19	7 38 $\frac{1}{2}$	20 25 $\frac{1}{2}$			40 32	63	65 $\frac{1}{2}$	5	
" 24.		Noon.			69 31			40 2	67	66 $\frac{1}{2}$		
" 25.		Noon.			71 40			37 40	70 $\frac{1}{2}$	70		
	6	3 48 $\frac{1}{2}$	5	53 4 $\frac{1}{2}$	19 02			37 6 $\frac{1}{2}$			4	
" 26.		Noon.			73 36			35 31 $\frac{1}{2}$	71	72 $\frac{1}{2}$		
	5	32 42 $\frac{1}{2}$	5	21 11	25 45 $\frac{1}{2}$			35 07			5	
	21	56 24 $\frac{1}{2}$	21	44 14 $\frac{1}{2}$	48 50 $\frac{1}{2}$			33 56 $\frac{1}{2}$			4	
" 27.		Noon.			75 10			33 43	71	72		
	20	0 18	19	47 18 $\frac{1}{2}$	23 35 $\frac{1}{2}$			32 54	73	72 $\frac{1}{2}$	3	
When the last Observations were taken, the island of <i>Porto Santo</i> bore N. W. by N. distant about four miles.												
" 28.		Noon.			75 50			32 48 $\frac{1}{2}$	73	72 $\frac{1}{2}$		
" 30.	I carried both Time-keepers on shore at Funchial, on the island of Madeira, and compared them with the Astronomical Clock, (see p. 6.) from whence I find that Mr. Kendall's was losing at the rate of 1 $\frac{1}{2}$ a day on mean time, and gave the longitude of the place 12 $^{\circ}$ 50' 14" west of Drake's Island, or 17 $^{\circ}$ 6' 22" west of Greenwich. Mr. Arnold's (No. 3.) was losing 56 $\frac{1}{2}$ a day on mean time, and gave the longitude 9 $^{\circ}$ 59' 41" west of Drake's Island, or 14 $^{\circ}$ 45' 49" west of Greenwich.											
Aug. 2.		Noon.			75 03			32 21 $\frac{1}{2}$	73 $\frac{1}{2}$	75 $\frac{1}{2}$		
	5	56 28 $\frac{1}{4}$	5	38 12 $\frac{1}{4}$	21 30 $\frac{1}{2}$			31 52 $\frac{1}{2}$			5	
" 3.	20	8 35 $\frac{1}{2}$	19	50 36	23 30 $\frac{1}{2}$			30 14 $\frac{1}{2}$	73 $\frac{1}{2}$	73	3	
		Noon.			77 25 $\frac{1}{2}$			19 42 $\frac{1}{2}$	74 $\frac{1}{2}$	77		

1772.	Time by Watch K.		Time by Watch A. No. 3.		Altitude of the ☉ of L. L.	Longi- tude W. by K.	Longi- tude W. by A.	Latitude North.	Thermom.		Z to Obs.	Remarks.
	H	M	H	M					A.	B.		
♂ Aug. 4.	Noon.				78 15			28 37 $\frac{1}{2}$	74 $\frac{1}{2}$	75 $\frac{1}{2}$		
	3 56 50 $\frac{1}{2}$		3 36 6		48 16 $\frac{1}{2}$			28 28 $\frac{1}{2}$		76 $\frac{1}{2}$	6	
	6 43 9		6 22 17 $\frac{1}{2}$		11 56 $\frac{1}{2}$			28 25			3	
♂ — 5.	Noon.				78 40 $\frac{1}{2}$			27 55 $\frac{1}{2}$	74 $\frac{1}{2}$	76		
	4 12 31		— — —		45 4	18 53 $\frac{1}{2}$		27 38 $\frac{1}{2}$		77 $\frac{1}{2}$	3	
♂ — 6.	Noon.				80 12 $\frac{1}{2}$			26 7 $\frac{1}{2}$	75 $\frac{1}{2}$	78		
	20 23 33		19 59 14 $\frac{1}{2}$		23 50 $\frac{1}{2}$			24 33	74	74 $\frac{1}{2}$	3	
♀ — 7.	Noon.				81 56			24 6 $\frac{1}{2}$	76	79		
	20 1 47		19 36 4 $\frac{1}{2}$		18 9 $\frac{1}{2}$			22 29 $\frac{1}{2}$	73	73	3	
♂ — 8.	Noon.				83 28			22 7	74 $\frac{1}{2}$	79		
	20 20 42 $\frac{1}{2}$		19 53 35 $\frac{1}{2}$		21 21 $\frac{1}{2}$			20 29 $\frac{1}{2}$	74 $\frac{1}{2}$	70	3	
☉ — 9.	Noon.				85 22 $\frac{1}{2}$			20 5 $\frac{1}{2}$	75	78		
	20 24 27,4		19 55 52,4		20 45 $\frac{1}{2}$			18 27 $\frac{1}{2}$	75 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
♂ — 10.	Noon.				87 9			18 1	77	79		
	20 42 25		20 12 26		23 56	22 36 $\frac{1}{2}$		16 29	77 $\frac{1}{2}$	78	3	
♂ — 11.	Noon.				88 41			16 10,4	79	82		
	7 4 38		6 34 01 $\frac{1}{2}$		7 22 $\frac{1}{2}$	23 1		15 47 $\frac{1}{2}$			4	
	20 38 22		20 6 57		22 11 $\frac{1}{2}$	23 10 $\frac{1}{2}$		15 10 $\frac{1}{2}$	78	80	3	
♂ — 13.	Noon.				89 22 $\frac{1}{2}$			14 53	80 $\frac{1}{2}$	82		
♀ — 14.	Noon.				89 2 $\frac{1}{2}$			14 54 $\frac{1}{2}$	81	81		
♂ — 15.	20 52 5,4		20 15 35		25 13 $\frac{1}{2}$			12 35	80	80	3	
☉ — 16.					88 37 $\frac{1}{2}$			12 19 $\frac{1}{2}$	81	81		
	20 22 21		19 43 36		18 16 $\frac{1}{2}$			11 56 $\frac{1}{2}$			4	
♂ — 17.	22 51 37		22 11 17		55 36 $\frac{1}{2}$				81	82	3	
	0 28 46		23 48 26		79 15 $\frac{1}{2}$						3	
♂ — 18.					88 19 $\frac{1}{2}$			11 22 $\frac{1}{2}$	81	82		
	20 10 45 $\frac{1}{2}$		19 29 12 $\frac{1}{2}$		16 56 $\frac{1}{2}$			10 50	80 $\frac{1}{2}$	80	7	
♂ — 19.	1 50 20 $\frac{1}{2}$				79 38						3	
	3 59 45 $\frac{1}{2}$				48 2 $\frac{1}{2}$						5	
♀ — 21.	Noon.				86 33 $\frac{1}{2}$			8 37	79	79		
	22 30 0		21 44 32		53 13 $\frac{1}{2}$			7 55			3	
♂ — 22.	Noon.				86 7			7 50	80 $\frac{1}{2}$	80		
	4 53 32		4 7 42		31 12 $\frac{1}{2}$			7 41 $\frac{1}{2}$			5	
	20 6 50,6		19 20 12,6		19 18 $\frac{1}{2}$			6 57 $\frac{1}{2}$	79	80	5	
☉ — 23.	Noon.				85 25 $\frac{1}{2}$			6 48 $\frac{1}{2}$	80	80		
	20 50 45		20 3 47		31 21 $\frac{1}{2}$			6 29	78 $\frac{1}{2}$	78	4	
♂ — 24.	Noon.				85 21 $\frac{1}{2}$			6 23 $\frac{1}{2}$	80	79		
♂ — 25.	Noon.				85 13 $\frac{1}{2}$			5 54	80	80 $\frac{1}{2}$		
♂ — 26.	Noon.				84 46			5 6 $\frac{1}{2}$	79	76 $\frac{1}{2}$		
	20 22 13 $\frac{1}{2}$		19 30 26 $\frac{1}{2}$		27 42 $\frac{1}{2}$			4 18 $\frac{1}{2}$	78	78	4	
♂ — 27.	Noon.				84 14 $\frac{1}{2}$	East.		4 13	79	80 $\frac{1}{2}$		
	4 52 22 $\frac{1}{2}$		4 0 8 $\frac{1}{2}$		24 26 $\frac{1}{2}$			4 8 $\frac{1}{2}$			4	
	20 8 41 $\frac{1}{2}$		19 10 39		24 36 $\frac{1}{2}$			3 43 $\frac{1}{2}$			4	
♀ — 28.	Noon.				84 4			3 42 $\frac{1}{2}$	78	77		
	5 4 7 $\frac{1}{2}$		4 10 35		19 58 $\frac{1}{2}$			3 41			4	
	19 29 37		18 35 16		17 29 $\frac{1}{2}$			3 16 $\frac{1}{2}$			3	

1772.	Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉ L. L.	Longi- tude W. by K.	Longi- tude E. by A.	Latitude North.	Thermom.		No. of Ob.	Remarks.
	H "	H "	° '	° '	° '		A.	D.		
h Aug. 29.	Noon.		83 52			3 9 $\frac{1}{2}$	77 $\frac{1}{2}$	78		
	5 3 41	4 8 49	18 33 $\frac{1}{2}$			3 0 $\frac{1}{2}$			4	
o — 30.	Noon.	18 21 51	16 10 $\frac{1}{2}$			2 38 $\frac{1}{2}$	77 $\frac{1}{2}$	77	5	
	5 8 34 $\frac{1}{2}$	4 12 49 $\frac{1}{2}$	15 22			2 35 $\frac{1}{2}$			2	
	19 54 40	18 57 33	27 17 $\frac{1}{2}$			2 33			3	
p — 31.	Noon.		83 59 $\frac{1}{2}$			2 33 $\frac{1}{2}$	79	78 $\frac{1}{2}$		
	19 18 16 $\frac{1}{2}$	18 19 43 $\frac{1}{2}$	18 22 $\frac{1}{2}$			2 4	78	77	7	
s Sept. 1.	Noon.		83 46 $\frac{1}{2}$			1 58 $\frac{1}{2}$	78	79		
	3 40 27 $\frac{1}{2}$	2 41 26 $\frac{1}{2}$	35 44			1 54 $\frac{1}{2}$			2	
	19 40 34 $\frac{1}{2}$	18 40 42 $\frac{1}{2}$	23 19 $\frac{1}{2}$			1 27 $\frac{1}{2}$			4	
u — 2.	Noon.		83 31 $\frac{1}{2}$			1 21 $\frac{1}{2}$	78	78		
u — 3.	19 20 50 $\frac{1}{2}$	18 18 36	15 47 $\frac{1}{2}$			0 57 $\frac{1}{2}$			5	
e — 4.	Noon.		83 45			0 50 $\frac{1}{2}$	76	75		
	2 36 11	1 33 34	54 42 $\frac{1}{2}$			0 49			6	
	3 16 46	2 14 9	44 48			0 49			6	
b — 5.	Noon.		84 10			0 53 $\frac{1}{2}$	75 $\frac{1}{2}$	76		
	3 9 36	2 5 50 $\frac{1}{2}$	46 33			0 54 $\frac{1}{2}$			7	
	4 7 16	3 3 40	31 58			0 54 $\frac{1}{2}$			4	
o — 6.	Noon.		84 12 $\frac{1}{2}$			0 33 $\frac{1}{2}$	76	75		
	4 9 58 $\frac{1}{2}$	3 4 56 $\frac{1}{2}$	30 32 $\frac{1}{2}$			0 31			8	
						South.				
p — 7.	19 22 26	18 15 1	16 42 $\frac{1}{2}$			0 10 $\frac{1}{2}$			3	
s — 8.	Noon.		84 6			0 18	76 $\frac{1}{2}$	76		
	19 42 53	18 33 48 $\frac{1}{2}$	20 59 $\frac{1}{2}$			0 51 $\frac{1}{2}$			4	
u — 9.	Noon.		83 48			0 59	76	75		
	19 55 48		23 2			1 53	75	74 $\frac{1}{2}$	4	
u — 10.	Noon.		83 10			2 0	76	75		
	19 27 17 $\frac{1}{2}$	18 14 49	14 28 $\frac{1}{2}$			2 55 $\frac{1}{2}$			5	
e — 11.	Noon.		82 27 $\frac{1}{2}$			3 5 $\frac{1}{2}$	76	76		
b — 12.	Noon.		81 44			4 11 $\frac{1}{2}$	77	76 $\frac{1}{2}$		
	4 7 1	2 54 37	34 52 $\frac{1}{2}$			4 18 $\frac{1}{2}$			4	
	19 58 19	18 42 41	20 21			4 58 $\frac{1}{2}$			4	
o — 13.	0 45 38		80 48						3	
	3 10 35		50 16 $\frac{1}{2}$			5 12			3	
	20 22 24	19 6 30 $\frac{1}{2}$	25 12 $\frac{1}{2}$			6 23 $\frac{1}{2}$	75	75	4	
p — 14.	Noon.		80 10			6 32 $\frac{1}{2}$	76	76 $\frac{1}{2}$		
	5 27 44	4 9 51 $\frac{1}{2}$	17 13 $\frac{1}{2}$			6 52 $\frac{1}{2}$			4	
s — 15.	Noon.		78 49			8 16 $\frac{1}{2}$	75 $\frac{1}{2}$	77		
	21 4 34	19 43 41	33 40 $\frac{1}{2}$			9 17 $\frac{1}{2}$			3	
u — 16.	20 32 34	19 10 9	25 9 $\frac{1}{2}$		West.	10 55			3	
	21 55 19		43 50 $\frac{1}{2}$						3	
	23 54 23		71 10 $\frac{1}{2}$						3	
u — 17.	Noon.		76 48			11 4	75	73 $\frac{1}{2}$		
	20 7 29	18 43 40	18 23			12 12 $\frac{1}{2}$			4	
	21 24 13 $\frac{1}{2}$	20 0 20	36 50 $\frac{1}{2}$			12 16 $\frac{1}{2}$			14	

1772	Time by Watch K	Time by Watch A No 3	Altitude of the ☉ & L. L.	Longi- tude West by K	Longi- tude West by A	Latitude South	Thermom		No of Obs	Remarks
	H	H					A	B		
Sept 18	Noon		75 44 $\frac{1}{2}$			12 31 $\frac{1}{2}$	75	73 $\frac{1}{2}$		
	21 58 48	20 39 24	43 58 $\frac{1}{2}$			13 56			3	
	23 33 46 $\frac{1}{2}$		64 39 $\frac{1}{2}$						4	
	0 36 33		73 59 $\frac{1}{2}$						3	
19	Noon		74 32			14 07	74	72 $\frac{1}{2}$		
	5 9 37	3 43 42 $\frac{1}{2}$	24 47 $\frac{1}{2}$			14 15 $\frac{1}{2}$			4	
	20 18 32	18 57 37	19 31 $\frac{1}{2}$			15 24	72	72	6	
	22 1 39 $\frac{1}{2}$	20 34 34 $\frac{1}{2}$	43 47			15 29			6	
20	Noon		73 24			15 38	73	72 $\frac{1}{2}$		
21	Noon		72 12			17 14	73	71		
	21 31 20 $\frac{1}{2}$	20 2 6 $\frac{1}{2}$	35 18 $\frac{1}{2}$			18 30			10	
22	Noon		71 2 $\frac{1}{2}$			18 46 $\frac{1}{2}$	74	75		
23	Noon		70 0 $\frac{1}{2}$			20 12 $\frac{1}{2}$	73	73		
	6 7 10	4 36 2	12 59 $\frac{1}{2}$			20 28			6	
	21 36 40	20 4 37	36 19 $\frac{1}{2}$			21 24			6	
24	Noon		69 1			21 35 $\frac{1}{2}$	72	72		
25	Noon		68 5			22 54 $\frac{1}{2}$	71	70 $\frac{1}{2}$		
	20 20 55	18 46 0 $\frac{1}{2}$	16 55 $\frac{1}{2}$			24 3	69	69	4	
26	Noon		67 6			24 17	72	73		
	5 25 38	3 50 13 $\frac{1}{2}$	23 40 $\frac{1}{2}$			24 21			4	
	20 12 50 $\frac{1}{2}$	18 36 49 $\frac{1}{2}$	15 23			24 40 $\frac{1}{2}$	69	69 $\frac{1}{2}$	5	
27	Noon		67 2			24 44 $\frac{1}{2}$	71	74		
	6 17 57 $\frac{1}{2}$	4 41 16 $\frac{1}{2}$	12 0 $\frac{1}{2}$			24 50			7	
	20 46 55	19 9 28	23 18 $\frac{1}{2}$			29 19 $\frac{1}{2}$				
28	Noon		66 40 $\frac{1}{2}$			25 29 $\frac{1}{2}$	71 $\frac{1}{2}$	72		
	20 10 46	18 32 6	16 5 $\frac{1}{2}$			26 8	69	67	4	
29	21 35 6	19 54 54 $\frac{1}{2}$	36 38 $\frac{1}{2}$			26 53 $\frac{1}{2}$			4	
30	Noon		68 58			26 58 $\frac{1}{2}$	71 $\frac{1}{2}$	71 $\frac{1}{2}$		
	5 27 48	3 47 7	19 42 $\frac{1}{2}$			27 4 $\frac{1}{2}$			5	
	20 19 14	18 37 49 $\frac{1}{2}$	22 16 $\frac{1}{2}$			27 23 $\frac{1}{2}$			5	
Oct 1	Noon		65 52			27 27 $\frac{1}{2}$	71 $\frac{1}{2}$	71		
	3 59 37 $\frac{1}{2}$	2 17 38	37 17 $\frac{1}{2}$			27 29			5	
	4 4 28	2 23 28 $\frac{1}{2}$	35 59 $\frac{1}{2}$			27 29			6	
	4 38 47 $\frac{1}{2}$	2 56 09	29 1			27 28 $\frac{1}{2}$			5	
	21 34 52 $\frac{1}{2}$	19 52 2	39 35 $\frac{1}{2}$			27 35 $\frac{1}{2}$			4	
2	Noon.		66 4 $\frac{1}{2}$			27 38 $\frac{1}{2}$				
			66 2 $\frac{1}{2}$			27 40 $\frac{1}{2}$	68 $\frac{1}{2}$	65 $\frac{1}{2}$		Sextant made by Ramsden Ditto by Dollond
3	Noon	1 29 19 $\frac{1}{2}$	46 3 $\frac{1}{2}$			27 44 $\frac{1}{2}$			6	
	3 26 30	1 41 56	41 59			28 9 $\frac{1}{2}$	66 $\frac{1}{2}$	67 $\frac{1}{2}$		
4	Noon	19 34 5	39 47 $\frac{1}{2}$			28 14 $\frac{1}{2}$			4	
	21 19 35 $\frac{1}{2}$		65 27 $\frac{1}{2}$			28 54			4	
5	Noon	18 53 13	33 11 $\frac{1}{2}$			29 2 $\frac{1}{2}$	64 $\frac{1}{2}$	62		
	4 4 33	2 17 26 $\frac{1}{2}$	65 51 $\frac{1}{2}$			29 9			4	
			30 5 $\frac{1}{2}$	11 13 $\frac{1}{2}$		29 0 $\frac{1}{2}$	62 $\frac{1}{2}$	61		
						28 54 $\frac{1}{2}$			14	Hazy

1772.		Time by Watch K.	Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longi- tude West by K.	Longi- tude West by A.	Latitude S.		Thermom.		Barom.	Remarks.
		H	H	°	°	°	°	°	A.	B.		
1	Oct.	5.	22 7 10	20 19 9	50 47 $\frac{1}{2}$		29 40				4	
8	—	6.	Noon.		65 27		29 48 $\frac{1}{2}$	64	61 $\frac{1}{2}$		4	
			20 13 5	18 23 56 $\frac{1}{2}$	27 25		31 2 $\frac{1}{2}$				4	
11	—	7.	Noon.		64 17 $\frac{1}{2}$		31 21	63 $\frac{1}{2}$	60 $\frac{1}{2}$		4	
			4 29 14	2 39 41	25 50		31 28 $\frac{1}{2}$				4	
14	—	8.	Noon.		63 16		32 45 $\frac{1}{2}$	63 $\frac{1}{2}$	62		4	
			4 12 25 $\frac{1}{2}$	2 21 30 $\frac{1}{2}$	28 48 $\frac{1}{2}$		32 56 $\frac{1}{2}$				6	Very hazy.
			20 23 45	18 31 47 $\frac{1}{2}$	30 44 $\frac{1}{2}$		33 49				5	
2	—	9.	Noon.		62 24		34 0 $\frac{1}{2}$	63 $\frac{1}{2}$	61		4	
			20 4 32 $\frac{1}{2}$	18 11 11 $\frac{1}{2}$	28 27		34 20 $\frac{1}{2}$				4	
5	—	10.	Noon.		62 16 $\frac{1}{2}$		34 28 $\frac{1}{2}$	63 $\frac{1}{2}$	62		7	
			5 6 46 $\frac{1}{2}$	3 12 57 $\frac{1}{2}$	15 5 $\frac{1}{2}$		34 31 $\frac{1}{2}$				4	
			19 35 3 $\frac{1}{2}$	17 40 30 $\frac{1}{2}$	23 50 $\frac{1}{2}$		34 42 $\frac{1}{2}$				4	
10	—	11.	Noon.		62 25		34 44 $\frac{1}{2}$	63	63 $\frac{1}{2}$		4	
			4 13 29	2 18 34 $\frac{1}{2}$	25 2 $\frac{1}{2}$		34 46 $\frac{1}{2}$				4	
			6 24 12									
			6 53 24									
			6 53 51									
			6 54 57									
			6 55 23									
			6 55 30									
			7 4 0									
			20 1 12	18 4 0 $\frac{1}{2}$	29 42 $\frac{1}{2}$		34 51 $\frac{1}{2}$				4	
1	—	12.	Noon.		62 40		34 51 $\frac{1}{2}$	63	63		7	
			4 56 3 $\frac{1}{2}$	2 59 54	16 9 $\frac{1}{2}$		34 52				4	
8	—	13.	Noon.		62 40		35 14 $\frac{1}{2}$	64	65 $\frac{1}{2}$		4	
			19 33 18	17 35 11	27 2 $\frac{1}{2}$		35 30	60 $\frac{1}{2}$	61		5	
11	—	14.	Noon.		62 44 $\frac{1}{2}$		35 32 $\frac{1}{2}$	63 $\frac{1}{2}$	61		4	
			19 23 3 $\frac{1}{2}$	17 23 41	26 49 $\frac{1}{2}$		35 37				5	
14	—	15.	Noon.		63 1	East.	35 37 $\frac{1}{2}$	62	62		5	
			19 6 19	17 5 44	25 59 $\frac{1}{2}$		35 19 $\frac{1}{2}$	60 $\frac{1}{2}$	59		5	
2	—	16.	Noon.		63 43 $\frac{1}{2}$		35 17	63	61		5	
			18 44 43	16 42 55	23 42 $\frac{1}{2}$		35 1	59	57		5	
5	—	17.	Noon.		64 23 $\frac{1}{2}$		35 0	61 $\frac{1}{2}$	59		5	
			4 6 38 $\frac{1}{2}$	2 3 26	18 17 $\frac{1}{2}$		34 39 $\frac{1}{2}$				5	
10	—	18.	Noon.		65 6 $\frac{1}{2}$		34 37 $\frac{1}{2}$	59 $\frac{1}{2}$	60 $\frac{1}{2}$		4	
			3 2 47 $\frac{1}{2}$	0 59 30	29 21 $\frac{1}{2}$		34 35 $\frac{1}{2}$				4	
			19 24 2	17 19 57	35 37 $\frac{1}{2}$		34 29 $\frac{1}{2}$				5	Very cloudy.
1	—	19.	Noon.		65 46 $\frac{1}{2}$		34 19	60 $\frac{1}{2}$	57		4	
			4 2 14	1 57 42 $\frac{1}{2}$	16 56 $\frac{1}{2}$		34 23 $\frac{1}{2}$				5	
			18 32 21	16 27 6	25 30 $\frac{1}{2}$		34 41 $\frac{1}{2}$				5	
			18 52 13 $\frac{1}{2}$	16 46 57 $\frac{1}{2}$	29 34		34 41 $\frac{1}{2}$				4	
8	—	20.	Noon.		65 38 $\frac{1}{2}$		34 48 $\frac{1}{2}$	63 $\frac{1}{2}$	62 $\frac{1}{2}$		4	
			18 13 21	16 6 57	21 42 $\frac{1}{2}$		35 20 $\frac{1}{2}$	63	60 $\frac{1}{2}$		6	

1772	Time by Watch K		Time by Watch A No 3		Altitude of the Sun L. L.	Long East by K	Longitude East by A	Latitude S	Thermom		Remarks
	H	m	H	m					A	R	
8 Oct 20	20	15	18	9	45 54 ^r			35 26 ^r			Very hazy Very uncertain
8 — 21	Noon				65 9 ^r			35 39	65 ⁺	63	
	4	29	2	22	11 54			35 49			
4 — 22	19	38	17	30	39 6 ^r	8 0 ^r	33 49 ^r	36 44 ⁺			
	Noon				64 17 ^r			36 52 ⁺	64	60	
	18	26	16	17	25 50 ^r	8 53 ⁺	34 55 ⁺	37 12	62	58	
8 — 23	Noon				64 18			37 12 ⁺	63	61 ⁺	
5 — 24	Noon				65 13 ^r			36 38	59	61 ⁺	
	2	47	0	36	29 30 ⁺	11 32 ⁺	38 58 ⁺	36 30 ⁺	57	54	
	20	42	18	21	54 2			35 45			
0 — 25	17	51	15	38	23 50 ⁺	14 9 ⁺	41 3 ⁺	34 53 ⁺	59	58	
0 — 26	Noon				67 52 ⁺			34 39 ⁺	60	62	
	2	38	0	25	29 31 ⁺	14 26 ⁺	41 27 ⁺	34 29			
	18	4	15	49	27 21 ⁺	14 59 ⁺	42 10 ⁺	33 44	62	59	
8 — 27	Noon				69 9 ^r			33 43	64	60	
	18	51	16	35	27 57 ^r			33 39			
8 — 28	Noon				69 31			33 41 ⁺	66	67	
	3	27	1	11	18 5 ⁺			33 45 ⁺			
8 — 30	Noon				69 56 ^r			33 56	62 ⁺	65	

Nov 2 Carried both Watches on shore at the Cape Town, and compared them with the Clock B, by which the times of equal altitudes were noted, (See p 14) and found that Mr Kendall's was too slow for mean time, that day at noon, by 1 h 31⁺ 4⁺ 7, from which taking 1⁺ 11 on account of its going 5 8ths of a second a day too slow, and being set 7 10ths of a second too fast for mean time, there will remain 1 h 29 53⁺ 7 = 22 28 25⁺ for the longitude of the Cape Town East of Drake's Island, that is 18° 12' 18" East of Greenwich, or 0° 10' 57" less than the truth.

The Watch A (No 3) was too slow for mean time, the same day at noon, by 3 h 51⁺ 25⁺ 9 from which taking 28⁺ 7⁺ 9 on account of its going 1⁺ 63 a day too slow, and being likewise set 10⁺ too slow for mean time at Drake's Island, we shall have 3 h 26 18⁺ = 51° 34⁺ for the longitude of the Cape Town West of Drake's Island by this Watch; that is 47° 18⁺ East of Greenwich, or 28° 55' more than the observations of Messrs Macon and Dixon make it. The former of these Watches was going 1⁺ 2 a day too fast for mean time, when here, and the latter 1 30⁺ 642 too slow; and at these rates I supposed them to go until our arrival at Dusky Bay, in New Zealand. I also supposed the longitude of the Cape Town to be 18° 23⁺ 1⁺ East of Greenwich.

I have to add, that in carrying the Watches on board the ship at this place, the Watch A (No 3) stopped. I went on board in the long boat, by choice thinking it would be less liable to motion or accidents than a less, and sat in the stern shears, with a watch on each side. In lying the boat along side the ship, the Coxswain let her strike but not so hard as to give me any apprehensions at the time; however on getting aboard, I found that this watch had stopped, and can assign no other cause. On the 17th I let it a going, and at 1 h 2 31⁺ 1, by Mr Kendall's Watch, it shewed 1 h 5 0⁺ and I found it 1 h 29 39⁺ 2 too slow for mean time at the Cape on the 18th at noon.

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3. Q

1772	Time by Watch K		Time by Watch A No. 3		Altitude of the ☉ : L L	Longitude East by K	Longitude East by A	Latitude S	Thermon		Remarks
	H	M	H	M					A	B	
O Dec 20	18 14	2	17 32	35 $\frac{1}{2}$	40 17 $\frac{1}{2}$	29 24	27 28 $\frac{1}{2}$	53 51 $\frac{1}{2}$	42	32 $\frac{1}{2}$	Bad horizon
D — 21	19 23	1	18 41	31 $\frac{1}{2}$	49 24 $\frac{1}{2}$	29 25	27 28 $\frac{1}{2}$	53 55 $\frac{1}{2}$		33	
	Noon				59 6 $\frac{1}{2}$			54 10 $\frac{1}{2}$	50	33 $\frac{1}{2}$	
	2 15	10			31 23 $\frac{1}{2}$	29 50		54 30		34 $\frac{1}{2}$	
	18 18	48	17 35	58 $\frac{1}{2}$	41 4	30 20 $\frac{1}{2}$	28 22 $\frac{1}{2}$	55 5 $\frac{1}{2}$	46	32 $\frac{1}{2}$	
δ — 22	Noon				58 22 $\frac{1}{2}$			54 54	52	33	
γ — 23	Noon				57 50			55 25 $\frac{1}{2}$	59 $\frac{1}{2}$	31	
η — 24	Noon		16 56	28	36 18 $\frac{1}{2}$	31 42 $\frac{1}{2}$	29 40	56 23	49	32 $\frac{1}{2}$	
h — 26	Noon				56 42 $\frac{1}{2}$			56 31 $\frac{1}{2}$	57	35	
					54 39			58 31 $\frac{1}{2}$	52	31 $\frac{1}{2}$	
	4 12	15	3 23	16	17 58	26 13 $\frac{1}{2}$	24 20 $\frac{1}{2}$	58 32 $\frac{1}{2}$		32	Fuzzy Ditto Good
	5 27	37 $\frac{1}{2}$	4 38	18	9 4 $\frac{1}{2}$	26 13 $\frac{1}{2}$	24 8	58 32 $\frac{1}{2}$			
O — 27	Noon		18 14	10	42 11	24 43 $\frac{1}{2}$	22 35 $\frac{1}{2}$	58 22 $\frac{1}{2}$	47 $\frac{1}{2}$	33 $\frac{1}{2}$	
D — 28	Noon		1 47	8	30 49 $\frac{1}{2}$	25 19 $\frac{1}{2}$	23 11 $\frac{1}{2}$	58 20	54	36	
	2 37	25			54 20			58 44 $\frac{1}{2}$	50	35	
δ — 29	Noon		1 54	4	31 42	21 25 $\frac{1}{2}$	19 16 $\frac{1}{2}$	58 53			
γ — 30	Noon				53 48 $\frac{1}{2}$			59 12	48	33 $\frac{1}{2}$	
	2 24	07	1 29	51	53 33 $\frac{1}{2}$			59 23 $\frac{1}{2}$	56 $\frac{1}{2}$	36 $\frac{1}{2}$	
					36 37 $\frac{1}{2}$	20 30 $\frac{1}{2}$	13 15 $\frac{1}{2}$	59 27			
1773											
h Jan 2	4 6	48	3 7	35 $\frac{1}{2}$	27 0 $\frac{1}{2}$	10 19 $\frac{1}{2}$	8 5 $\frac{1}{2}$	58 52			Fuzzy Ditto Good
D — 4	4 29	13 $\frac{1}{2}$	3 30	3	24 3 $\frac{1}{2}$	10 26	8 12 $\frac{1}{2}$	58 52			
γ — 6	Noon				53 27 $\frac{1}{2}$			59 1 $\frac{1}{2}$	52	33	
	17 34	52	16 28	47	30 42 $\frac{1}{2}$	27 36 $\frac{1}{2}$	25 14 $\frac{1}{2}$	60 33 $\frac{1}{2}$	44	34	
	17 41	47	16 35	42	31 33 $\frac{1}{2}$	27 36 $\frac{1}{2}$	25 14	60 33 $\frac{1}{2}$	44	34	
η — 7	Noon		18 34	38	44 39 $\frac{1}{2}$	27 57 $\frac{1}{2}$	25 35	60 36 $\frac{1}{2}$			
	19 9	38	18 1	56 $\frac{1}{2}$	51 26 $\frac{1}{2}$			60 40 $\frac{1}{2}$	51	35	
					42 38 $\frac{1}{2}$	31 58 $\frac{1}{2}$	29 42 $\frac{1}{2}$	61 18	45	34	
δ — 8	19 9	38			42 38 $\frac{1}{2}$	ON 57 E Ship's course S E at 5 miles an hour					
	22 2	24			50 26 $\frac{1}{2}$			61 22	53	34 $\frac{1}{2}$	
h — 9	16 55	0	15 45	53	28 40 $\frac{1}{2}$	34 30 $\frac{1}{2}$	32 15 $\frac{1}{2}$	61 36	49 $\frac{1}{2}$	33 $\frac{1}{2}$	
	Noon				50 15			61 36	56 $\frac{1}{2}$	35	
	19 18	16 $\frac{1}{2}$	19 22	34 $\frac{1}{2}$	44 2 $\frac{1}{2}$	35 56	33 42	61 54			
O — 10	19 18	16 $\frac{1}{2}$			44 2 $\frac{1}{2}$	ON E by E Ship's course S at the rate of 3 miles an hour					
	23 57	10 $\frac{1}{2}$			42 10			62 0	55	34	
δ — 11	16 52	5	16 39	46	29 2 $\frac{1}{2}$	36 58 $\frac{1}{2}$	34 45 $\frac{1}{2}$	63 2 $\frac{1}{2}$	46 $\frac{1}{2}$	34	
	16 38	17 $\frac{1}{2}$	15 24	22 $\frac{1}{2}$	27 37 $\frac{1}{2}$	38 51 $\frac{1}{2}$	35 53 $\frac{1}{2}$	64 11 $\frac{1}{2}$	50	35	
γ — 12	Noon		18 2	23 $\frac{1}{2}$	42 26 $\frac{1}{2}$	37 53 $\frac{1}{2}$	35 41 $\frac{1}{2}$	64 11 $\frac{1}{2}$			
δ — 13	18 14	22	16 58	45	47 11 $\frac{1}{2}$			64 11 $\frac{1}{2}$	56	35	
	Noon				37 20 $\frac{1}{2}$	38 35	36 24 $\frac{1}{2}$	64 16 $\frac{1}{2}$	49	34 $\frac{1}{2}$	Bad horizon
					46 56			64 16 $\frac{1}{2}$	50 $\frac{1}{2}$	38	

1773.	Time by Watch K.		Time by Watch A. No. 1.		Altitude of the Sun's L.	Longitude by K.		Longitude by A.		Latitude S.	Thermom.		No. of Obs.	Remarks.
	H	M	H	M		°	'	°	'		A.	B.		
Jan. 13.	17	0 24½	15	43 6½	29 55½	38 47½	36 40½	64 1					6	
14.	17	9 5	15	51 47	30 49½	38 44	36 36½	64 1					6	
	Noon.				47 5			63 57	57	35½				
	1	39 20½	0	21 26	29 27½	39 7½	37 01½	63 54½					5	
	17	1 25	15	42 25½	30 4½	39 7½	37 2½	63 35½	52	35			5	
	18	8 45	16	49 58½	36 55½	38 55½	36 51½	63 32					6	
	18	30 50	17	11 23½	38 59½	39 4½	37 0½	63 32					6	
15.	Noon.				47 18			63 32½	58½	42				
	3	28 41½	2	8 56½	17 26	38 51½	36 49½	63 31½					5	
	19	6 49½	17	45 57	41 3½	38 43½	36 42½	64 23					5	
16.	Noon.				46 8½			64 31	56	35				
	3	22 45	2	1 16½	18 11	38 55½	36 55½	64 55½	60	34½			6	
	18	32 39	17	10 7½	36 57½	38 52	36 53½	66 21½					5	
17.	Noon.				43 51			66 36½	51½	34				Very foggy.
	18	9 23	16	45 18	34 53½	38 49½	36 51½	66 14	46	32			5	Ditto.
18.	Noon.				44 16			65 59½	52	34½				Exceeding foggy.
	2	43 24½	1	18 46	22 7½	38 43½	36 45½	65 36½		33			5	
	17	18 19	15	52 44	36 44½	39 18½	37 21½	64 41½	45	35			3	
19.	Noon.				45 33½			64 29	51½	35				
	2	41 36½	1	15 24	21 47½	39 33½	37 36½	64 17½		34½			4	
	16	56 9	15	29 1	28 29	39 36½	37 39½	64 16	48	33½			5	
20.		1 32 13½	0	4 31½	29 3½	39 53½	37 53½	63 47		33½			5	
	16	55 17	15	26 33½	28 49	40 28	38 31½	63 1½	43	35			3	Very cloudy.
21.	Noon.				46 50 : :			62 46½	53½	35½				
	21	53 6½			46 17½	Ship's Course E.								
	23	46 10			38 58	N. E. 4 knots.			62	47½			5	
						O N. 20° E. at 2d Observation.							5	
	2	44 54	1	16 30	20 15½	41 15½	39 20½	62 28½	56½	35½			7	
	17	10 26½	15	40 8½	31 33½	42 21½	40 40½	61 48	44	35½			5	
22.	Noon.				47 48½			61 33½	54	37½				
					47 50			61 32½						
	16	59 49	15	27 56½	31 44½	45 13	43 18	60 21½	47	35			6	
23.	Noon.				49 5½			60 2½	51½	36½				
	1	19 13	23	46 50	27 50	46 33½	44 38½	59 41½		35½			5	
24.	Noon.				50 29½			58 24½	51½	34½				
	0	51 44½	23	17 53	30 5½	49 14½	47 19½	57 59½	55	34½			4	
26.		16 9 21½	14	30 16	28 1½	50 41	48 48½	56 46	41	35½			5	
	17	44 42½			40 11½	Ship's Course N. E.							4	
	20	18 47			51 3½	by E. 4 knots.			56	31			4	
27.	Noon.				51 40½			56 28	51½	35				
	23	48 11½	22	9 33	37 15½	51 10	49 18½	56 15	52	36			5	
	03	57 47½	22	19 9	15 59½	51 18½	49 26½	56 14½	52	36			3	
	0	23 52½	22	44 14	32 48½	51 8½	49 16½	56 13½	52	36			5	
	2	24 36	0	45 50½	16 4½	51 9½	49 18½	56 6½					5	
	16	5 55½	14	26 13½	28 8½	51 41½	50 5	55 1	47	38			5	

1773	Time by Watch K	Time by Watch A No 3	Altitude of the C & L I	Longi- tude East by K	Longi- tude East by A	Latitude S	The m		Remarks
	H	H					A	B	
14 Jan 28	Noon		53 24½			54 28½			Ramfden & Quail Dollond & Quail
29	Noon		53 24			54 28½	51	36	
30	16 9 16	14 24 35	55 7½			52 29	53	38	
			31 46½	57 31½	55 17½	51 13	18	39	
31	20 33 31½		55 55½	ON 37° W at the 2d Observat Ship's Course N N E 5 m an h		50 50½			
	2 53 6½		43 14½						
1 Feb 1	15 46 30	14 0 11	28 33½	57 29½	55 46	49 17½	47	40	
	Noon		57 54½			48 51	54	11	
2	17 18 15½	15 30 11½	44 4½	59 38	57 56½	48 33½	48	13	
	Noon		57 52½			48 36½	56½	15	
	0 5 20½	22 16 48½	30 42½	60 3½	58 22	49 0½		16½	
	15 44 39	13 54 59	30 20½	61 19½	59 39½	48 45½	51½	13	
3	15 46 1½	13 54 34½	29 17½	59 50	58 14½	49 4	52	42	
	Noon		56 38½			49 15	56½	45	
	0 1 47	22 9 44	31 19½	59 11½	57 38½	49 30	58	44	
	1 48 20½	23 56 9½	14 9½	59 19½	57 45½	49 37½	60	13½	
4	16 3 7	14 9 54½	31 15½	59 0½	57 29	49 15½	53	40	
	Noon		56 28			49 7	59½	11	
	0 37 46	22 44 2	25 39½	58 50½	57 18	48 40½	57	41	
	17 54 17½	15 59 28½	47 42½	58 44½	57 11½	48 6½	51	43	
5	23 1 52		40 24½	59 35		48 6		44½	
	Noon		56 6½	61 38½	60 6	48 39½	48	41	
	0 23 53	22 27 6	24 56½	62 41½	61 9	48 51½	54	44	
	18 42 25	16 42 39½	52 23½	64 27		49 41	63	45	
6	Noon		54 18			50 0			
	15 36 37½	13 35 23	29 19	64 44½	63 18	50 1½	57½	45	
	17 1 4	14 59 43½	41 47½	65 59½	64 33½	49 51½	48	40	
	Noon		53 54			50 6½	52	41	
7	23 44 31½	23 42 45	28 11½	68 22½	64 33½	50 23½	53	41	Ramfden & Quail Dollond & Quail
				Ship's Course S by E 7 miles an hour ON 42 W at 2d Obs					
	20 54 57½		48 19½						
	23 50 37½		27 18½			51 22			
8	23 50 37½	21 47 12½	27 18½	68 22½	66 58	51 34½			
	14 26 10	12 21 44	20 47½	70 2	68 32	52 28			
	15 18 8	13 14 40	28 42½	70 4½	68 41½	52 31½			
	15 39 46½	13 35 16	31 39½	70 5½	68 42	52 32½			
9	Noon		50 33½			52 47½			
			50 32½			52 48½	56½	38	
	23 45 52½	21 40 48	23 56½	70 59½	69 37	52 20½		38	
	13 15 44	11 39 41	15 44½	72 12½	70 50½	53 34½			
10	14 22 51½	12 16 43	21 15	72 14½	70 53½	53 37½	48	35	Ramfden & Quail Dollond & Quail

1773.	Time by Watch K.		Time by Watch A. No. 3.	Altitude of the ☉'s L. L.	Longitude E. by K.	Longitude E. by A.	Latitude S.	Thermom.		No. of Obs.	Remarks.
	H	M						A.	B.		
Feb. 13.	Noon.			49 6 $\frac{1}{2}$			54 54 $\frac{1}{2}$	55 $\frac{1}{2}$	36		
☉ — 14.	23 51 28 $\frac{1}{2}$		21 44 45	21 14 $\frac{1}{2}$	73 25 $\frac{1}{2}$	72 4 $\frac{1}{2}$	54 9 $\frac{1}{2}$	57 $\frac{1}{2}$	38 $\frac{1}{2}$	5	
	15 4 47 $\frac{1}{2}$		12 55 25 $\frac{1}{2}$	29 7 $\frac{1}{2}$	74 23 $\frac{1}{2}$	73 06 $\frac{1}{2}$	55 40 $\frac{1}{2}$	56	36	7	
	17 6 26			41 51 $\frac{1}{2}$	78 28	77 9 $\frac{1}{2}$	56 35 $\frac{1}{2}$	54 $\frac{1}{2}$	35	5	Very hazy.
☽ — 15.	19 39 58 $\frac{1}{2}$			44 2 $\frac{1}{2}$	Ship's course S. S. E. 7 $\frac{1}{2}$ miles an hour.		56 53			4	
	23 38 6			18 27 $\frac{1}{2}$						5	
	16 39 17		14 28 0	29 41 $\frac{1}{2}$	Ship's course E. two miles an hour.		57 4	55	36 $\frac{1}{2}$	5	
☽ — 16.	19 46 4			42 36 $\frac{1}{2}$			57 16	46	35	5	
☽ — 17.	13 43 18		11 28 58	19 36	82 47	81 34 $\frac{1}{2}$	57 53 $\frac{1}{2}$	44	32	4	
	13 59 51 $\frac{1}{2}$		11 45 34	21 49	82 54 $\frac{1}{2}$	81 42	57 54	44	32	2	
☽ — 18.	Noon.			43 21			57 57	53	33		
	23 43 28 $\frac{1}{2}$		21 28 34	14 32 $\frac{1}{2}$	84 32 $\frac{1}{2}$	83 7 $\frac{1}{2}$	58 2 $\frac{1}{2}$	56 $\frac{1}{2}$	33	5	
☽ — 19.	Noon.			42 27:			58 30	52 $\frac{1}{2}$	35		
	13 48 1		11 30 32 $\frac{1}{2}$	23 35 $\frac{1}{2}$	90 43 $\frac{1}{2}$	89 33 $\frac{1}{2}$	58 47 $\frac{1}{2}$	43 $\frac{1}{2}$	32 $\frac{1}{2}$	5	
☽ — 20.	Noon.			41 49 $\frac{1}{2}$			58 46 $\frac{1}{2}$	54 $\frac{1}{2}$	35		Ramden's Q.
				41 48 $\frac{1}{2}$			58 47 $\frac{1}{2}$				Dolland's Q.
☉ — 21.	23 33 10		21 15 2	11 26 $\frac{1}{2}$	91 38 $\frac{1}{2}$	90 28 $\frac{1}{2}$	58 46 $\frac{1}{2}$			9	
☽ — 22.	13 15 5		10 54 21	19 56 $\frac{1}{2}$	93 21 $\frac{1}{2}$	92 14	59 18 $\frac{1}{2}$	45 $\frac{1}{2}$	34	3	Very cloudy.
☽ — 23.	Noon.			38 29:			61 1 $\frac{1}{2}$	54 $\frac{1}{2}$	35		Ditto.
					Sun N. 80 E. Ship's course S. E. 2 miles an hour.					5	Very hazy.
☽ — 24.	15 37 27			33 19			60 49	56	36 $\frac{1}{2}$	4	
☽ — 25.	18 11 7 $\frac{1}{2}$			37 34 $\frac{1}{2}$							
	22 17 39		19 51 19	17 16 $\frac{1}{2}$	95 27 $\frac{1}{2}$	94 26 $\frac{1}{2}$	60 49 $\frac{1}{2}$	57 $\frac{1}{2}$	36 $\frac{1}{2}$	5	
	12 40 59 $\frac{1}{2}$		10 13 37	16 2 $\frac{1}{2}$	97 7 $\frac{1}{2}$	96 8 $\frac{1}{2}$	60 58 $\frac{1}{2}$			4	
☽ — 26.	Noon.			37 15 $\frac{1}{2}$			61 8	57	36 $\frac{1}{2}$		
☽ — 27.	12 52 6 $\frac{1}{2}$		10 21 27 $\frac{1}{2}$	20 5	103 41 $\frac{1}{2}$	102 46	60 3	45	35 $\frac{1}{2}$	4	
☉ — 28.	Noon.			37 41 $\frac{1}{2}$			59 57 $\frac{1}{2}$	50 $\frac{1}{2}$	36 $\frac{1}{2}$		
☽ March 3.	Noon.			36 14 $\frac{1}{2}$			60 16 $\frac{1}{2}$	55	38		
	19 9 58		16 34 17	29 0 $\frac{1}{2}$	110 5 $\frac{1}{2}$	109 11	60 13 $\frac{1}{2}$			5	
☽ — 5.	Noon.			35 6 $\frac{1}{2}$			60 38 $\frac{1}{2}$	55 $\frac{1}{2}$	37 $\frac{1}{2}$		
	19 44 27 $\frac{1}{2}$		17 5 24	21 58	116 58 $\frac{1}{2}$	116 0	60 26 $\frac{1}{2}$				
☽ — 6.	20 37 31		17 56 38	15 11 $\frac{1}{2}$	118 34 $\frac{1}{2}$	117 47 $\frac{1}{2}$	59 56 $\frac{1}{2}$	54	37	7	
☉ — 7.	11 8 12		8 24 33 $\frac{1}{2}$	20 27 $\frac{1}{2}$	120 35	119 53 $\frac{1}{2}$	59 44	46 $\frac{1}{2}$	35 $\frac{1}{2}$		
☽ — 8.	Noon.			34 51 $\frac{1}{2}$			59 44	54 $\frac{1}{2}$	40		Dolland's Q.
				34 52			59 43 $\frac{1}{2}$				Ramden's Q.
	19 48 57 $\frac{1}{2}$		17 4 43	19 8	120 39 $\frac{1}{2}$	120 6 $\frac{1}{2}$	59 44 $\frac{1}{2}$			5	
☽ — 9.	Noon.			35 17 $\frac{1}{2}$			58 55 $\frac{1}{2}$	51 $\frac{1}{2}$	37		
☽ — 10.	Noon.			35 43			58 6	48 $\frac{1}{2}$	35		
	21 12 30 $\frac{1}{2}$		8 24 7 $\frac{1}{2}$	17 47	120 15 $\frac{1}{2}$	128 34 $\frac{1}{2}$	57 53 $\frac{1}{2}$	44	35	4	
					Ship's course S.E. 6 $\frac{1}{2}$ miles an h. ☉ N. 17° W. at 2d Observat.					4	
☽ — 11.	15 46 13			34 54 $\frac{1}{2}$			58 10 $\frac{1}{2}$			4	
	17 7 31			30 52 $\frac{1}{2}$						4	

1773	Time by Watch K	Time by Watch A No 3	Altitude of the ☉ L L	Longi- tude East by K	Longi- tude East by A	Latitude South	Thermo		R mark
	H °	H "	L "			A	R		
4 March 11	10 44 30	7 54 29	14 28	130 49	130 10	58 55	47	17	5
2 — 12	Noon		34 7			58 55	56	39	
5 — 13	Noon		33 57			58 12	53	36	
O — 14	18 32 33	15 40 2	20 41	133 14	132 37	58 43	3	5	5
	Noon		33 54			58 21	51	33	
D — 15	18 37 5	15 43 15	18 45	135 52	135 17	58 23			5
	11 56 21	9 1 20	24 41	138 32	137 58	58 58	41	31	5
	Noon		32 48			59 4	50	31	
			32 47			59 4			
	10 9 28	7 13 0	14 7	141 21	140 48	58 52	41	33	1
	12 22 20	9 25 45	27 42	141 49	141 15	58 52			4
a — 16	12 30 43	9 34 9	28 18	141 45	141 11	58 52			6
	Noon		32 37			58 51	53	35	
B — 17	18 57 8	16 0 7	15 56	143 7	142 34	58 53	55	36	5
	19 8 21		8 33	146 43		58 3			1
U — 18	Pocket Watch	14 48 35	33 26	Ship's course N E. by N 6½ miles an hour			56 26		2
		16 31 53	26 36						5
F — 19	17 50 26	14 50 16	17 19	149 30	148 59	56 8			
b — 20	9 37 30	6 34 43	16 45	153 3	152 34	53 43	51	45	5
	Noon		36 31			53 22	54	45	
O — 21	17 56 48	14 53 27	14 29	154 16	153 47	52 48			5
D — 22	10 45 24	7 39 16	29 18	158 14	157 48	50 11			4
	Noon		39 12			49 55	56	47	
	17 15 34	14 8 36	18 20	158 52	158 27	49 30			5
a — 23	9 7 6	5 59 19	17 57	160 14	159 52	48 3	51	47	5
	Noon		40 58			47 45	58	49	
B — 24	17 13 24	14 5 3	17 44	161 8	160 45	47 30	58	49	5
U — 25	16 58 51	13 48 39	18 53	163 9	162 47	46 23	60	54	1
	Noon		41 42			46 14	58	54	
b — 27	8 40 55	5 28 12	16 52			45 51	56	52	4

We got moored in Dusky Bay, New Zealand, but the place was so inconvenient, the weather so bad, and I had so much wood to clear away before I could erect my Observatory, that I did not get the Clock agoing before that day seven night after wards On 8, April the 6th, I compared both Watches with it, (See p 25 and 26) and continued to do so every day until the 22d, from whence I found that Mr Kendalls was gaining at the rate of 6,726 a day on mean solar time and that of Mr Arnolds (No 3) 101,051 Reckoning from the Cape of Good Hope, at the rates they were going when there, the former made the Longitude of the Observatory, at this place, 165° 12' 37", and the latter 165° 38' 35" East of Greenwich. If we reckon all the way from Drake's Island, in Plymouth Sound at the rates the Watches were going when at Greenwich, Mr Kendalls will give the Longitude of the Observatory 168° 3' 16" East of Drake's Island and Mr Arnolds 247° 51' 24", that is 163° 47' 9", and 243° 35' 16" East of Greenwich As the Watch made by Mr Arnold stopped at the Cape of Good Hope, it may be necessary to shew how I have made these deductions from it On No

1773	Time by Watch K	Apparent Time	Altitude of the ☉ & L L	Latitude S	Longitude East by K	Thermon		No of Ob	Remarks
	H	H				A	B		
	<p>Hence I found that the former was now gaining at the rate of 9,05 and the latter losing at the rate of 94^h, 158 a day on mean time. The former, allowing its Dusky Bay rate, gave the difference of Longitude between this place and that 7 26 30 and allowing its rate of going as determined now 7 45 54 that is 173 44 39 and 174 4 3" East of Greenwich. If the rate which Mr Arnold's Watch was going at when at Dusky Bay be allowed it will make the difference of Longitude between those places 6 40 56" and by allowing the rate it was going at here 7 31 24 that is 172 59 5", and 173 52 33 between this place and Greenwich. If then Greenwich rates be allowed them all the way from England, the Watches will place Queen Charlotte's Sound 174 7 $\frac{1}{2}$ and 271 50 33 East of Drake's Island respectively; that is 169 51 $\frac{1}{2}$ and 267 34 25 East of Greenwich.</p> <p>May 28th, that lock of Mr Arnold's Watch, which Lieutenant Cooper had the key of, got spoiled; I suppose by a wrong key being given, by mistake to Lieutenant Pickersgill, who attended that day for Lieutenant Cooper to open the box so that on the 29th it could not be opened. After unlocking the other two locks, a screw driver was introduced between the box and lid, and the lock forced by turning the screw driver round. I am certain no injury did, or could possibly happen to the Watch by doing this. The lock being damaged it was taken off and the Watch trusted under the other two until June 3, when we got it repaired and put on again, and Mr Cooper locked it as before. I have been thus circumstantial, because when we came to wind the Watch up, June 7th, at noon, I found the fusee would not turn, and we were obliged to let the Watch go down, and stand over afterwards.</p> <p>Mr Kendall's Watch was too slow for mean time at Queen Charlotte's Sound, on June 3, at noon, by 11 h 38 17^h.97; and in computing the Longitude of the ship by this Watch, in our run from hence to Otaheite, I have supposed its rate to be as above mentioned, and that the true Longitude of the Beach in Queen Charlotte's Sound, where I observed, is 173 46 1 $\frac{1}{2}$, which results from Mr Baily's Observations made here; and the experiments mentioned on p 49.</p>								
June 7		Noon	25 55 $\frac{1}{2}$	41 8 $\frac{1}{2}$		59 $\frac{1}{2}$	55		
8	9 6 31 $\frac{1}{2}$	Noon	11 36 $\frac{1}{2}$	41 48 $\frac{1}{2}$	174 39 $\frac{1}{2}$	56 51 $\frac{1}{2}$	5		
9	16 1 39	Noon	25 2 $\frac{1}{2}$	41 56 $\frac{1}{2}$		58 52			
10	9 41 34 $\frac{1}{2}$	Noon	6 30 $\frac{1}{2}$	42 6 $\frac{1}{2}$	175 20	60 $\frac{1}{2}$	52	3	
11		Noon	24 1	42 57 $\frac{1}{2}$		58 $\frac{1}{2}$	55		
12	9 51 59	Noon	15 43 $\frac{1}{2}$	43 49 $\frac{1}{2}$	178 49 $\frac{1}{2}$	57 53 $\frac{1}{2}$	6		
13	8 53 33 $\frac{1}{2}$	Noon	21 54	43 54 $\frac{1}{2}$		60 $\frac{1}{2}$	54		
14	21 16 18	Noon	15 52 $\frac{1}{2}$	46 8					
15		Noon	10 42 $\frac{1}{2}$	46 41 $\frac{1}{2}$	185 17 $\frac{1}{2}$			5	Very uncertain on account of the Latitude
16	14 30 0	Noon	19 44 $\frac{1}{2}$	46 46 $\frac{1}{2}$		48 $\frac{1}{2}$	56	6	
17	9 27 33	Noon	9 32 $\frac{1}{2}$	46 52	185 29 $\frac{1}{2}$	48	56	5	
18	8 38 16	Noon	4 20	46 22				4	
19	21 9 41	Noon	20 8 $\frac{1}{2}$	46 18 $\frac{1}{2}$		56 $\frac{1}{2}$	49 $\frac{1}{2}$		
20	14 10 0	Noon	10 27 $\frac{1}{2}$	45 59 $\frac{1}{2}$	187 43 $\frac{1}{2}$	54 $\frac{1}{2}$	49 $\frac{1}{2}$	5	
	8 8 39	Noon	20 30 $\frac{1}{2}$	45 54		55	48		
		Noon	11 14 $\frac{1}{2}$	45 48	188 30 $\frac{1}{2}$	55	47 $\frac{1}{2}$	5	
		Noon	11 0 $\frac{1}{2}$	44 26	194 0 $\frac{1}{2}$	51 $\frac{1}{2}$	48 $\frac{1}{2}$	5	

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1778.	Time by Watch K.		Apparent Time.	Altitude of the ☉ L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
June 21.			Noon.	21 56 $\frac{1}{2}$	44 26		53 $\frac{1}{2}$	50 $\frac{1}{2}$		
♂ — 22.	8	4	21 5 31	11 3	44 34 $\frac{1}{2}$	195 45	53	50 $\frac{1}{2}$	5	
			Noon.	21 47 $\frac{1}{2}$	44 36		55 $\frac{1}{2}$	52 $\frac{1}{2}$		
	11	12	20 $\frac{1}{2}$	21 42 $\frac{1}{2}$	44 35 $\frac{1}{2}$	Ship's course East, 2 miles an hour.			4	
	13	46	55	11 32 $\frac{1}{2}$					5	
	13	46	55	11 32 $\frac{1}{2}$	44 37	196 0 $\frac{1}{2}$			5	
♀ — 23.			Noon.	21 46	44 37 $\frac{1}{2}$		56	50 $\frac{1}{2}$		
	13	53	18	3 1 24	10 13 $\frac{1}{2}$	44 37 $\frac{1}{2}$			5	
	14	6	46	3 14 56 $\frac{1}{2}$	8 34 $\frac{1}{2}$	44 37 $\frac{1}{2}$			7	
♀ — 25.	8	7	1 $\frac{1}{2}$	21 10 52	12 53 $\frac{1}{2}$	43 3 $\frac{1}{2}$	196 34 $\frac{1}{2}$	58 54	6	Very cloudy.
♂ — 26.			Noon.	23 17 $\frac{1}{2}$	43 9 $\frac{1}{2}$			60 55 $\frac{1}{2}$		
	13	59	16	3 4 32	10 54 $\frac{1}{2}$	43 17 $\frac{1}{2}$	196 58 $\frac{1}{2}$		3	Very uncertain.
♀ — 27.			Noon.	23 55 $\frac{1}{2}$	42 34			59 53 $\frac{1}{2}$		
♂ — 28.			Noon.	24 7 $\frac{1}{2}$				60 52 $\frac{1}{2}$		Very foggy.
	6	49	18	19 58 28	3 50 $\frac{1}{2}$	42 37 $\frac{1}{2}$	198 11 $\frac{1}{2}$	58 51	5	
	7	57	37	21 7 5	12 51 $\frac{1}{2}$	42 39 $\frac{1}{2}$	198 14 $\frac{1}{2}$		3	Very cloudy.
♂ — 29.			Noon.	23 48 $\frac{1}{2}$	42 46 $\frac{1}{2}$			61 $\frac{1}{2}$ 52 $\frac{1}{2}$		
	14	6	56 $\frac{1}{2}$	3 18 42 $\frac{1}{2}$	9 30	42 54	198 35 $\frac{1}{2}$		5	
	7	30	35	20 43 45	9 40 $\frac{1}{2}$	43 5 $\frac{1}{2}$	199 15		5	
♀ — 30.			Noon.	23 32 $\frac{1}{2}$	43 6			59 51 $\frac{1}{2}$		
	7	52	47	21 14 6	13 21 $\frac{1}{2}$	43 11 $\frac{1}{2}$	201 22 $\frac{1}{2}$	55 48	5	
July 1.			Noon.	23 35	43 7 $\frac{1}{2}$			56 49		Ramsden's Quad.
	13	37	7	2 59 18	11 51 $\frac{1}{2}$	43 7 $\frac{1}{2}$	201 36 $\frac{1}{2}$	57 49 $\frac{1}{2}$	5	Dollond's ditto.
	6	51	48 $\frac{1}{2}$	20 17 51 $\frac{1}{2}$	6 25	43 2 $\frac{1}{2}$	202 40	52 $\frac{1}{2}$ 45	6	
♀ — 2.			Noon.	23 44 $\frac{1}{2}$	43 2 $\frac{1}{2}$			56 $\frac{1}{2}$ 47		
	14	3	30 $\frac{1}{2}$	3 31 7	7 55 $\frac{1}{2}$	43 2 $\frac{1}{2}$	203 1 $\frac{1}{2}$		6	
	7	18	54 $\frac{1}{2}$	20 49 54	10 33 $\frac{1}{2}$	43 14	203 57 $\frac{1}{2}$	53 48	5	
♂ — 3.			Noon.	23 33 $\frac{1}{2}$	43 18			56 $\frac{1}{2}$ 47 $\frac{1}{2}$		
	13	51	27	3 25 50	8 27 $\frac{1}{2}$	43 22 $\frac{1}{2}$	204 42 $\frac{1}{2}$	61 49	5	
	9	24	4 $\frac{1}{2}$		21 26 $\frac{1}{2}$					
♀ — 4.			Noon.	22 58	43 58			54 48 $\frac{1}{2}$		
	13	48	54	3 25 12	8 19 $\frac{1}{2}$	43 48	205 23 $\frac{1}{2}$	55 49	6	
	7	41	24	21 22 50	14 31 $\frac{1}{2}$	43 18	206 45		5	Cloudy, and great sea.
	7	41	24		14 31 $\frac{1}{2}$		☉ N. 30 E. at 1st obs. and N. 44 W. at 3d. Ship's course E. N. E. 4 $\frac{1}{2}$ miles an h.		5	
♂ — 5.	10	45	2	23 36 $\frac{1}{2}$	43 11 $\frac{1}{2}$				3	Ditto.
	12	54	20	14 32 $\frac{1}{2}$					5	
	12	54	20	2 38 45 $\frac{1}{2}$	14 32 $\frac{1}{2}$	43 5	207 30 $\frac{1}{2}$	55 $\frac{1}{2}$ 49 $\frac{1}{2}$	5	More certain.
	7	3	13 $\frac{1}{2}$	20 48 10	11 12 $\frac{1}{2}$	42 19 $\frac{1}{2}$	207 50 $\frac{1}{2}$		5	
♂ — 6.			Noon.	24 59 $\frac{1}{2}$	42 7 $\frac{1}{2}$			56 $\frac{1}{2}$ 51		
	13	26	15	3 13 26 $\frac{1}{2}$	11 18 $\frac{1}{2}$	41 55 $\frac{1}{2}$	208 16 $\frac{1}{2}$		5	
	6	21	44 $\frac{1}{2}$	20 9 31 $\frac{1}{2}$	6 37	41 23	208 44 $\frac{1}{2}$	55 51	7	Hazy.
♀ — 7.			Noon.	25 51	41 22			57 52 $\frac{1}{2}$		
	13	37	19	3 27 11	9 56 $\frac{1}{2}$	41 22 $\frac{1}{2}$	208 53 $\frac{1}{2}$		5	By Lieut. Clerke.
	7	42	36 $\frac{1}{2}$	21 37 28	17 29 $\frac{1}{2}$	41 52 $\frac{1}{2}$	210 29 $\frac{1}{2}$	54 $\frac{1}{2}$ 51 $\frac{1}{2}$	5	

1773	Time by Watch K		Apparent Time	Altitude of the ☉ s L L	Latitude South	Longitude East by K	Thermom		° of Out	Remarks
	H	M	H				A	B		
July 7	7	42 36½		17 29 ¹⁰	41 58	O N 42 L at 11 ^h observat Ship's course L S I 6 miles an hour			5	
4 — 8	8	10 51 9		24 20 ¹⁰					6	
		13 53 43	3 52 8	6 2 ¹	42 6 ¹	211 14½	58	51½	4	
		6 43 29½		11 8 ¹	42 35 ¹	212 43½			5	
8 — 9	9		Noon	24 47	42 39 ¹		54 ¹	51½		
		13 25 16½		8 39½	42 46½	213 13½	58	51	4	
		6 28 57	20 42 1½	9 59½	43 27 ¹	215 2½			6	
5 — 10	10	6 44 49½		13 8½	43 33 ¹	217 28			6	
O — 11	11		Noon	24 7½	43 34½		54	47		
		12 40 9	3 5 3½	11 41½	43 32½	218 5	55½	47	5	
		6 14 37½	20 44 ½	10 37½	43 17½	219 23	52	47	9	
		6 52 53	21 23 28	15 16½	43 17½	219 33½			8	
12 — 12	12		Noon	24 33 ¹	43 15 ¹⁰					
		13 2 7½	3 34 12½	24 33½	43 15½		54	49		Dollond's Quad
		5 46 59	20 21 3	8 14	43 14½	219 57	56	49	6	Ramden's ditto
		7 3 32	21 38 27	7 46½	43 2½	220 29	53	47½	6	
8 — 13	13		Noon	24 56	43 2	220 42½			6	
		13 4 56½		24 56½	43 1 ¹		56½	49		Dollond's Quad
8 — 16	16		Noon	7 34½	42 57 ¹	221 2 ¹	57	49		Ramden's ditto
		12 40 33	3 28 46	27 1½	41 24 ¹		51	46	4	Very cloudy
		6 22 48½	21 17 1½	10 53½	41 11	224 14½	51 ¹	46½	5	A great sea
5 — 17	17		Noon	28 51½	39 53	225 53½			4	
		12 39 49	3 35 49	11 7 ¹	39 43 ¹		48	44½		
		5 2 41	19 58 53	8 2 ¹	39 19	226 15½	49½	45	4	
O — 18	18		Noon	30 49½	38 4 ¹	226 20½	49	47½	7	
12 — 19	19	12 52 23½	3 41 47½	18 11	37 49	226 24½	51	49½		
			Noon	32 21½	36 34½		53½	49	7	
		13 1 11½	3 58 30	9 36 ¹	36 25½	226 41½	55½	57		
8 — 20	20	4 55 45	19 52 29½	8 38 ¹	36 25½	226 35 ¹	57½	53	7	
8 — 21	21		Noon	33 47	35 20				5	
		13 0 11	3 53 16½	13 2½	32 24	225 46 ¹	58½	58½		
11 — 22	22	4 56 47	19 48 2	10 23½	31 23½	225 19½	63	61	5	
			Noon	38 24½	31 5 ¹		62½	61	5	Very hazy
		13 9 47	3 59 59	12 55 ¹	30 47½	225 5 ¹	64½	63		
9 — 23	23	4 44 28		8 40½	29 34	224 41½	65	62½	6	
			Noon	40 19 ¹	29 22½		63	61 ¹	7	
O — 25	25	10 20 1		38 8			66	63 ¹		Cloudy
		12 14 51		24 30 ¹	29 43½	223 20½	O N 46 W at 2d Observat Ship's course N E by L 4 miles an hour			Cloudy
		5 20 45	20 6 4	15 28½	28 58½	224 4				
12 — 26	26		Noon	41 27½	28 52½		68	66	7	Cloudy
		12 2 14	2 48 47	26 42	28 46	224 20	69½	66 ¹		
							71	67	5	

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1773.	Time by Watch K.		Apparent Time.	Altitude of the ☉, L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
D. July 26.	12	27	5 $\frac{1}{2}$	3 13 45	22 41	224 21 $\frac{1}{2}$			6	
8 — 27.	4	49	51	19 37 3 $\frac{1}{2}$	10 43 $\frac{1}{2}$	224 31 $\frac{1}{2}$	69	61 $\frac{1}{2}$	5	
			Noon.	42 40	27 53 $\frac{1}{2}$		70	67 $\frac{1}{2}$		
	11	50	19 $\frac{1}{2}$	2 37 43	29 12 $\frac{1}{2}$	224 32 $\frac{1}{2}$	70	69	6	
	4	55	38		11 1 $\frac{1}{2}$	224 13 $\frac{1}{2}$	69	66	4	Cloudy.
8 — 28.			Noon.	43 4	27 43		70	69		
	12	18	25	3 2 24 $\frac{1}{2}$	25 32 $\frac{1}{2}$	223 46 $\frac{1}{2}$	70	68	6	
	5	7	1 $\frac{1}{2}$	19 47 46	13 10 $\frac{1}{2}$	222 58 $\frac{1}{2}$	69 $\frac{1}{2}$	68	7	Very cloudy.
4 — 29.			Noon.	43 30 $\frac{1}{2}$	27 30 $\frac{1}{2}$		70 $\frac{1}{2}$	69 $\frac{1}{2}$		
	12	51	57 $\frac{1}{2}$	3 34 21 $\frac{1}{2}$	12 22	223 24	74	70	6	Hazy.
	5	12	53 $\frac{1}{2}$	19 57 55	15 29 $\frac{1}{2}$	224 5			5	
8 — 30.			Noon.	44 11	27 4 $\frac{1}{2}$		71 $\frac{1}{2}$	71		
6 — 31.			Noon.	45 10 $\frac{1}{2}$	26 19 $\frac{1}{2}$		69 $\frac{1}{2}$	68		
	13	47	41	4 36 28 $\frac{1}{2}$	9 31 $\frac{1}{2}$	225 3 $\frac{1}{2}$	69 $\frac{1}{2}$	68	8	
o Aug. 1.	4	39	55	19 30 55	12 18 $\frac{1}{2}$	225 39	68 $\frac{1}{2}$	68	5	
D — 2.			Noon.	48 45 $\frac{1}{2}$	23 13 $\frac{1}{2}$		69 $\frac{1}{2}$	69 $\frac{1}{2}$		
	13	6	48	3 57 30	18 54	225 34 $\frac{1}{2}$			5	
	4	30	38	19 22 13	11 5 $\frac{1}{2}$	225 48 $\frac{1}{2}$	70 $\frac{1}{2}$	69 $\frac{1}{2}$	5	
8 — 3.			Noon.	50 7	12 8 $\frac{1}{2}$		71	71 $\frac{1}{2}$		
	13	41	55		12 7 $\frac{1}{2}$	225 53 $\frac{1}{2}$	73 $\frac{1}{2}$	72 $\frac{1}{2}$	5	
	4	40	54	19 32 43	13 47 $\frac{1}{2}$	225 53 $\frac{1}{2}$	72	72	5	
8 — 4.			Noon.	51 13	21 18		73 $\frac{1}{2}$	74		
	13	34	53 $\frac{1}{2}$	4 28 6	13 46 $\frac{1}{2}$	226 14 $\frac{1}{2}$			5	
	6	13	27	21 10 3 $\frac{1}{2}$	33 32 $\frac{1}{2}$	227 21 $\frac{1}{2}$	77	76 $\frac{1}{2}$	5	
4 — 5.			Noon.	52 7 $\frac{1}{2}$	20 29 $\frac{1}{2}$					
	13	59	24 $\frac{1}{2}$	4 58 22 $\frac{1}{2}$	7 43 $\frac{1}{2}$	227 41 $\frac{1}{2}$	80	77 $\frac{1}{2}$	5	
	4	34	33 $\frac{1}{2}$	19 34 28 $\frac{1}{2}$	15 3 $\frac{1}{2}$	227 56 $\frac{1}{2}$	76 $\frac{1}{2}$	77	3	
8 — 6.			Noon.	53 16	19 47 $\frac{1}{2}$		77 $\frac{1}{2}$	78		
6 — 7.			Noon.	54 28 $\frac{1}{2}$	18 51 $\frac{1}{2}$		73 $\frac{1}{2}$	75		
	5	44	33 $\frac{1}{2}$	20 29 48	27 42	224 18 $\frac{1}{2}$			5	Very cloudy.
o — 8.			Noon.	55 32 $\frac{1}{2}$	18 4 $\frac{1}{2}$		74 $\frac{1}{2}$	75		
	5	28	7 $\frac{1}{2}$		22 47 $\frac{1}{2}$	222 5 $\frac{1}{2}$			5	Cloudy.
	6	38	57 $\frac{1}{2}$	21 14 49	37 2 $\frac{1}{2}$	221 57 $\frac{1}{2}$			6	
D — 9.			Noon.	56 13	17 41 $\frac{1}{2}$		75 $\frac{1}{2}$	76 $\frac{1}{2}$		
	5	41	42 $\frac{1}{2}$	20 8 34	23 54 $\frac{1}{2}$	219 57 $\frac{1}{2}$	76	74 $\frac{1}{2}$	4	
	6	53	24	21 20 41	38 30 $\frac{1}{2}$	219 49			4	
8 — 10.			Noon.	56 58 $\frac{1}{2}$	17 22 $\frac{1}{2}$		76 $\frac{1}{2}$	78 $\frac{1}{2}$		
	13	36	41 $\frac{1}{2}$	4 1 37	21 48 $\frac{1}{2}$	219 13 $\frac{1}{2}$	77	77	5	
	5	1	44 $\frac{1}{2}$	19 21 25	13 53 $\frac{1}{2}$	217 55	75 $\frac{1}{2}$	75	3	Very hazy.
8 — 11.			Noon.	57 11 $\frac{1}{2}$	17 17 $\frac{1}{2}$		77 $\frac{1}{2}$	78 $\frac{1}{2}$		
	13	31	25	3 48 56	24 41	217 22 $\frac{1}{2}$			5	
	5	24	54 $\frac{1}{2}$	19 38 9	17 42	216 18 $\frac{1}{2}$	76 $\frac{1}{2}$	76 $\frac{1}{2}$	3	
	5	59	10	20 12 21 $\frac{1}{2}$	25 6	216 17 $\frac{1}{2}$			5	Hazy.
4 — 12.			Noon.	57 36 $\frac{1}{2}$	17 11		78	78 $\frac{1}{2}$		
	14	27	32	4 38 3	14 9	215 37	78 $\frac{1}{2}$	79	5	
	5	22	43	19 30 36	10 6 $\frac{1}{2}$	214 57 $\frac{1}{2}$	79	76 $\frac{1}{2}$	7	

1773	Time by Watch K	Apparent Time	Altitude of the Sun L	Latitude S	Longitude by K	Altitude of the Sun L	Latitude S	Longitude by K	Remarks
Aug 13		Noon	57 49	17 16					
	14 28 36	4 34 8	15 6	17 16	211 22	79 11			
	5 42 57		19 10	17 13	213 12	79 15			
14		Noon	58 9	17 15					
	13 59 4	3 57 51	25 11	17 17	212 40	79 19			
	5 13 13	19 7 23	10 59	17 42	211 31	78 17			
	5 37 7	19 31 36	16 26	17 43	211 37	78 17			
15		Noon	57 56	17 46					
	14 40 58	4 32 55	15 26	17 46	210 57	78 18			
	6 1 27		20 49	17 44		78 19			
16		Noon	58 17	17 44					
18	13 59 12	3 48 40	25 12	17 16	210 18	80 80			A little dubious
	8 30 52	22 20 37	50 36	17 46	10 22	79 17			
19		Noon	59 12	17 47					
	13 15 48	3 5 27	34 48	17 16	210 19	81 80			Dollond's Quadrant
	8 37 14	22 27 6	51 51	17 46	10 22	79 17			Ramden's Quadrant
20		Noon	59 33	17 16					
	13 18 55	3 8 40	34 19	17 46	210 10	81 79			At anchor in Otahaiti Bay, Otaheite
	8 47 54	22 37 42	53 37	17 46	210 19	80 81			A little uncertain
21		Noon	59 51	17 46					
22		Noon	60 12	17 46	W W	81 81			Dollond's Quadrant
			60 12	17 46	Cleike				All with Quadrants
			60 11	17 47	Gilbert				made by Ramden
24	13 53 9	3 43 4	27 21	17 46	210 20	81 80			
	5 4 56	18 54 26	9 19	17 29	210 9	76 15			The Bays W & S 6 m
25		Noon	61 31	17 29					
			61 32	17 28		76 14			Dollond's Quadrant

About five in the evening we anchored in Matavai Bay, and lost no time in getting up our clocks and instruments. On the 27th I compared the watch K with the clock B, (see p. 52) and found it too slow for mean time on that day at noon by 13 h 50 22.4. Consequently allowing the rate it went at in Queen Charlotte's Sound, it will give the difference of longitude between that place and Point Venus in Otaheite $36^{\circ} 13' 10''$ or, taking Queen Charlotte's Sound to be in $174^{\circ} 13' 30''$ East, which is the mean result of all the Observations which have been made there both by Mr Bayley and myself, it will place Point Venus $210^{\circ} 26' 40''$ East of Greenwich. If we reckon all the way from Drake's Island at the rate it went at when at Greenwich, before the voyage, it makes Point Venus $206^{\circ} 5' 54''$ East of Drake's Island; that is, $201^{\circ} 49' 47''$ East of Greenwich.

The watch was gaining here at the rate of $8''.863$ a day on mean time, and was too slow for mean time at Point Venus, on 3 August 31 at noon by 13 h 49 47.1, on which suppositions, and that the true longitude of Point Venus is $210^{\circ} 25' 10''$ East, the following longitudes of the ship are computed

ON BOARD THE RESOLUTION.

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1773.	Time by Watch K.	Apparent Time.	Altitude of the Sun L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
						A.	E.		
u Sept. 2.		Noon.	64 59 $\frac{1}{2}$	16 51 $\frac{1}{2}$		76 $\frac{1}{2}$	77		
q --- 3.		Noon.	65 28 $\frac{1}{2}$	16 45		66 $\frac{1}{2}$	66 $\frac{1}{2}$		
	15 2 50 $\frac{1}{2}$		14 57 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 51 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	5	
b --- 4.		Noon.	65 50 $\frac{1}{2}$	16 45		77	77		Dollond's Quadrant.
	14 46 22 $\frac{1}{2}$		65 51	16 44 $\frac{1}{2}$					Ramsden's ditto.
o --- 5.	14 49 37		18 50 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 52 $\frac{1}{2}$	79	78	5	At anchor in Owharre
	15 0 26		18 10 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 53 $\frac{1}{2}$	79 $\frac{1}{2}$	78 $\frac{1}{2}$	2	harbour in Huahine.
d --- 6.		Noon.	15 24 $\frac{1}{2}$	16 44 $\frac{1}{2}$	208 54	79 $\frac{1}{2}$	78 $\frac{1}{2}$	3	
s --- 7.		Noon.	66 35 $\frac{1}{2}$	16 44 $\frac{1}{2}$		77 $\frac{1}{2}$	79		
u --- 9.	14 35 10		66 52 $\frac{1}{2}$	16 50 $\frac{1}{2}$		79	79 $\frac{1}{2}$		
q --- 10.	12 43 22	2 26 56 $\frac{1}{2}$	22 19 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	81	81 $\frac{1}{2}$	4	
o --- 12.		Noon.	47 32 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$			5	
	14 41 30	4 25 23	68 46 $\frac{1}{2}$	16 45 $\frac{1}{2}$				2	At anchor in Ohama-
	14 44 33	4 28 31 $\frac{1}{2}$	21 5 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	78	77 $\frac{1}{2}$	3	nenno harbour in U-
d --- 13.		Noon.	20 21 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$	78	77 $\frac{1}{2}$	3	liatea.
	15 12 46	4 56 54 $\frac{1}{2}$	69 8 $\frac{1}{2}$	16 45 $\frac{1}{2}$		78	77	2	
q --- 15.	15 16 56	5 1 31	13 48 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 25 $\frac{1}{2}$	77	76	4	Cloudy.
q --- 17.		Noon.	12 57 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$	76 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
	13 44 15 $\frac{1}{2}$	3 26 40	70 40 $\frac{1}{2}$	16 51 $\frac{1}{2}$		77	78 $\frac{1}{2}$		
	5 51 57	19 31 44	35 22 $\frac{1}{2}$	16 57 $\frac{1}{2}$	207 47 $\frac{1}{2}$	77	77 $\frac{1}{2}$	5	
b --- 18.		Noon.	21 5 $\frac{1}{2}$	17 10 $\frac{1}{2}$	207 6	77	77	5	
	15 7 34	4 44 37	70 38	17 17		78	79		
	5 24 10 $\frac{1}{2}$	18 59 19	17 14 $\frac{1}{2}$	17 22	206 24 $\frac{1}{2}$	77 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
o --- 19.		Noon.	13 29 $\frac{1}{2}$	17 36 $\frac{1}{2}$	205 54 $\frac{1}{2}$	77		5	
	15 25 59 $\frac{1}{2}$	4 58 22 $\frac{1}{2}$	70 38 $\frac{1}{2}$	17 40 $\frac{1}{2}$		78	79 $\frac{1}{2}$		
	15 33 48 $\frac{1}{2}$	5 6 20	14 4	17 47	205 25 $\frac{1}{2}$	78 $\frac{1}{2}$	79 $\frac{1}{2}$	5	
d --- 20.		Noon.	12 11 $\frac{1}{2}$	17 47	205 28	78 $\frac{1}{2}$	79 $\frac{1}{2}$	5	
	5 43 42 $\frac{1}{2}$		70 38 $\frac{1}{2}$	18 3 $\frac{1}{2}$		80	81 $\frac{1}{2}$		Cloudy.
s --- 21.		Noon.	16 32 $\frac{1}{2}$	18 19	203 58	79	78 $\frac{1}{2}$	5	
	15 10 8	4 36 54	70 42 $\frac{1}{2}$	18 22 $\frac{1}{2}$		79 $\frac{1}{2}$	81		
	15 30 29		19 17 $\frac{1}{2}$	18 28 $\frac{1}{2}$	203 41	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
	15 43 54		14 45	18 29	203 38	80 $\frac{1}{2}$	80 $\frac{1}{2}$	3	Very cloudy.
	15 55 45	5 22 31	11 25 $\frac{1}{2}$	18 29	203 37	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	Ditto.
	5 48 43	19 13 26	8 34 $\frac{1}{2}$	18 29 $\frac{1}{2}$	203 41	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
q --- 22.		Noon.	17 5	18 36 $\frac{1}{2}$	203 8 $\frac{1}{2}$	77	74 $\frac{1}{2}$	5	
	14 40 22 $\frac{1}{2}$	4 2 10	70 47 $\frac{1}{2}$	18 41 $\frac{1}{2}$		77 $\frac{1}{2}$	77 $\frac{1}{2}$		
	6 1 46	19 20 11	17 29 $\frac{1}{2}$	18 45 $\frac{1}{2}$	201 23 $\frac{1}{2}$	77	76 $\frac{1}{2}$	3	Very cloudy.
u --- 23.		Noon.	18 45 $\frac{1}{2}$	19 4 $\frac{1}{2}$	201 31	71	69 $\frac{1}{2}$	3	Ditto.
	5 53 56	19 6 35	70 44	19 8 $\frac{1}{2}$		74 $\frac{1}{2}$	73		
q --- 24.		Noon.	15 39 $\frac{1}{2}$	19 22 $\frac{1}{2}$	199 59	74 $\frac{1}{2}$	72 $\frac{1}{2}$	3	Very cloudy.
	14 9 21	3 19 1	70 47 $\frac{1}{2}$	19 28 $\frac{1}{2}$		75	74		
	14 31 12 $\frac{1}{2}$	3 40 46	37 32 $\frac{1}{2}$	19 32 $\frac{1}{2}$	199 12 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
	6 20 49 $\frac{1}{2}$	19 25 44	32 34 $\frac{1}{2}$	19 33 $\frac{1}{2}$	199 11 $\frac{1}{2}$	75	75	3	Cloudy.
b --- 25.		Noon.	20 14 $\frac{1}{2}$	19 45 $\frac{1}{2}$	198 2 $\frac{1}{2}$	75 $\frac{1}{2}$	72 $\frac{1}{2}$	5	
	13 37 39	2 39 38	70 47 $\frac{1}{2}$	19 51 $\frac{1}{2}$		74 $\frac{1}{2}$	73 $\frac{1}{2}$		
			46 24 $\frac{1}{2}$	19 55 $\frac{1}{2}$	197 18 $\frac{1}{2}$	75	73 $\frac{1}{2}$	6	

1773	Time by Watch		Apparent Time	Altitude of the Sun	Latitude South	Longitude East by A.	The moon		°	Remarks
	H	M					A	B		
h Sept 25	13	53	41	2 55 39	2 51 1/2	19 55	197 17	75 73	5	
O — 26	7	38	57	20 35 38	36 2 1/2	20 20 1/2	195 56 1/2	74 1/2	5	
			Noon	70 37 1/2	20 25 1/2			73 1/2		
	16	3	23 1/2	4 56 44	15 7 1/2	20 30	195 5	72 1/2	5	
	6	9	22	18 59 38	14 21 1/2	20 35	194 15 1/2	71 1/2	5	
			Noon	70 46 1/2	20 40 1/2			71 1/2		
	15	16	8 1/2	4 2 46	27 44 1/2	20 44 1/2	193 21 1/2	72 70	5	Very cloudy
	6	8	58 1/2	18 48 45	11 56 1/2	20 57 1/2	191 37 1/2	72 71	4	
	6	34	30 1/2		17 45 1/2	20 58 1/2	191 33 1/2		5	
			Noon	70 46 1/2	21 3 1/2			72 1/2		
	9	33	39	22 6 44	56 18 1/2	21 27 1/2	189 53 1/2	72 1/2	5	
			Noon	70 43 1/2	21 30 1/2			72 1/2		
	13	44	3	2 15 37	51 45 1/2	21 28 1/2	189 30 1/2		5	
	6	25	53		12 48 1/2	21 14 1/2	187 56	73 70	4	
			Noon	71 26	21 11 1/2			71 70		
	14	42	40	3 4 48	41 18 1/2	21 13 1/2	187 6 1/2	71 70	4	Very hazy
	7	35	59	19 54 20	27 31 1/2	21 20 1/2	186 7 1/2	69 67	5	Cloudy
			Noon	71 38 1/2	21 21 1/2			70 70		
	16	11	21	4 26 40	22 43 1/2	21 24 1/2	185 21	70 69	5	
			Noon	72 3 1/2	21 20 1/2			70 1/2		
	14	29	55		46 19 1/2	21 20 1/2	184 55 1/2	71 74	5	In English Road
	8	15	17	20 28 43	35 44 1/2	21 16 1/2	184 49 1/2	71 71 1/2	5	1 moww
			Noon	73 6 1/2	21 4 1/2			71 71 1/2		
	13	59	49	2 12 22	53 37 1/2	21 4 1/2	184 32 1/2	72 72	3	Cloudy
			Noon	73 52 1/2	21 4 1/2		Dolland & Q	71 1/2		
	10	29	9 1/2	22 41 56	65 3 1/2	21 4 1/2	184 32 1/2	72 1/2	6	In Van Diemen's
			Noon	73 52 1/2	21 4 1/2		Ramsden & Q	72 1/2		Road at Tongatapu
	15	14	44 1/2	3 27 27	37 9 1/2	21 4 1/2	184 30 1/2	72 1/2	8	
	10	31	44	22 44 38	65 48 1/2	21 4 1/2	184 31 1/2	72 1/2	6	Very cloudy
			Noon	74 14 1/2	21 4 1/2			72 1/2		
	15	36	24	3 49 7 1/2	32 18 1/2	21 4 1/2	184 28 1/2	72 73		
	8	59	0 1/2	21 10 12	45 46 1/2	22 1 1/2	184 4 1/2	73 73 1/2	5	The Road is miles
	9	22	18 1/2	21 33 35	50 57 1/2	22 1 1/2	184 5 1/2	73 74 1/2	6	
			Noon	73 38 1/2	22 4 1/2			75 76 1/2		
	16	57	42	5 9 29	73 47 1/2	22 6 1/2	184 12 1/2	76 75	5	
	8	46	6 1/2		43 25 1/2	22 23 1/2	184 47 1/2	72 70 1/2	4	
			Noon	73 37 1/2	22 28			73 73 1/2		
	7	43	36 1/2	19 53 53	28 36 1/2	22 36 1/2	183 47 1/2	74 70	6	
			Noon	73 43 1/2	22 45 1/2			70 1/2		
	16	1	10	4 9 11	27 55	22 56 1/2	183 12 1/2	71 70	4	
	8	42	31 1/2		40 38 1/2	23 40		69 69	4	
	9	31	36	21 36 10	51 30 1/2	23 42 1/2	182 19 1/2	69 69	6	
	9	31	36		51 30 1/2	23 51 1/2	Ship's Course by W	4 miles an h	4	
	12	25	56 1/2		71 32					

1773.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
Oct. 11.	15	51	38½	31 12½	24 6½	182 0	70½	69½	4	
	7	42	10	26 14½	25 17½	181 26½	69½	69½	5	
	8	2	43	20 3 31	25 18½	181 23½	69½	69½	6	
— 12.			Noon.	71 38	25 26½		72	70½		
	16	34	31	4 34 21	22 19½	181 7	71	70½	5	
	8	41	53	20 39 30	26 55	180 32½	69	68½	5	
— 13.			Noon.	70 24	27 13½		70½	70		
	7	2	41	13 57 38½	16 20½	179 51½	68½	66½	8	
	7	7	54	19 2 54½	17 29½	179 53½	68½	66½	5	
— 14.	6	35	45½	18 29 20	10 24½	179 30½	68	65	5	
— 15.			Noon.	68 5½	30 16		71½	68½		
	15	26	28½	3 20 7	38 24½	179 30½	71	70	5	
	6	39	25½	18 32 56	11 27½	179 28½	67½	65	6	
— 16.			Noon.	67 2½	31 41½		69½	68		
	17	15	15	5 8 42	15 29½	179 27½	68½	67	5	
	9	4	10	20 57 40	11 46½	179 27½	66½	66½	5	
— 17.			Noon.	66 24½	32 41½		69½	69		
	17	35	52½	5 29 18½	11 21½	179 26	68	66		
	6	42	41	18 37 16	12 51½	179 42½	66½	64	6	
— 18.			Noon.	65 41½	33 46½		69½	66		
	8	5	10	29 53½	35 40		66½	64½	2	Cloudy;
— 19.			Noon.	63 52	35 58		68½	66½		Ditto.
	7	3	34	17 32½	37 27	179 38½	64½	61½	5	
— 20.			Noon.	62 23½	37 47½		64	60½		
	14	49	27	2 42 51½	44 9½	179 23	65	61½	6	
	6	48	51½	18 39 54½	14 14½	178 48½	62	59½	6	
— 21.			Noon.	61 27	39 6		63½	62		
	14	48	52	2 37 5½	44 51½	178 4½	64½	63½	6	Portland S. by W.
	8	52	52½	20 35 30½	36 18½	176 42	61½	58	6	½ N. 2 or 3 leagues.
— 22.			Noon.	60 40½	40 14		62½	59½		Black-Head S. W.
	15	32	15	3 14 55½	37 58½	176 43	63½	60½	5	2 or 3 leagues.
— 23.			Noon.	60 47½	40 28½		58	53½		Cape Turnagain S.
	15	50	33½	3 33 13½	34 54½	176 43	61	58	6	W. b. W. about 4 le.
	8	26	39	20 7 57	31 23½	176 24	60	57½	5	Cape Turnagain W.
— 24.	17	33	46	5 13 38½	16 19½	176 1½	62½	62	6	½ S. about 2 leag.
— 25.			Noon.	59 34½	42 23		62	59½		
	7	45	47	19 23 17	23 28	175 27	59½	54½	5	Very hazy, and great sea.
	11	46	5		58 42½	N. Ship's course N. W. by N. 6 miles an hour.				Ditto.
— 26.			Noon.	59 51½	42 27	N. 26° W.				
	13	46	2½	58 11½					4	

1773	Time by Watch K		Apparent Time		Altitude of the Sun L I		Latitude S	Longitude East by K	Time		Remarks	
	H	M	H	M	S	L I			A	B		
Oct 26	17	53	20	5	29	22	13 53	42 0 $\frac{1}{2}$	175	4	57 53	{ Cape Palliser N W about 6 leagues off
— 27			Noon				61 3	41 35 $\frac{1}{2}$			57 58	{ Cape Palliser W by S about 1 league
	17	14	41	4	50	43 $\frac{1}{2}$	21 15 $\frac{1}{2}$	41 47 $\frac{1}{2}$	175	4 $\frac{1}{2}$	60 $\frac{1}{2}$ 57 $\frac{1}{2}$	{ Cape Palliser W by N 4 leagues distant & high sea
	8	9	58	19	47	39	28 27 $\frac{1}{2}$	42 3 $\frac{1}{2}$	175	31 $\frac{1}{2}$	57 $\frac{1}{2}$ 56	
— 28			Noon				60 42 $\frac{1}{2}$	42 16 $\frac{1}{2}$			59 $\frac{1}{2}$ 58	
	16	51	34 $\frac{1}{2}$	4	28	37	25 31 $\frac{1}{2}$	42 20 $\frac{1}{2}$	175	22 $\frac{1}{2}$	61 $\frac{1}{2}$ 56 $\frac{1}{2}$	Fazy, and a high sea
	10	23	53	22	2	49	51 45 $\frac{1}{2}$	41 49 $\frac{1}{2}$	175	51 $\frac{1}{2}$	57 52	
— 29			Noon				61 33 $\frac{1}{2}$	41 45 $\frac{1}{2}$			57 $\frac{1}{2}$ 52 $\frac{1}{2}$	{ Cape Palliser W N about 10 leagues
	17	28	56	5	6	25	18 46 $\frac{1}{2}$	41 42 $\frac{1}{2}$	175	30 $\frac{1}{2}$	58 53	{ Cape Palliser W N about 8 leagues off
— 30			Noon				61 25	42 13 $\frac{1}{2}$			59 58	{ Cape Palliser W about 5 leagues off
— 31			Noon				61 40	42 19			60 $\frac{1}{2}$ 57	Very hazy, and a high sea
Nov 1	9	18	47	20	51	41 $\frac{1}{2}$	41 14 $\frac{1}{2}$		174	28	55 $\frac{1}{2}$ 53	Ditto
— 2	We anchored in Q Charlotte's Sound after beating off the Mouth of Cook's Straits, for a fortnight in one of the heaviest gales of wind almost ever known. I got up my Clock and Instruments as soon as possible, and compared the Watch K with the Clock every day, from the 6th to the 22d, (See p 65) and found that the Watch was then gaining 9' 09" a day on mean time, and that it was too slow for mean time, at Queen Charlotte's Sound, by 11 h 14' 4" 7 on the 6th at noon. Hence allowing the rate at which it went at Point Venus, it will make the difference of Longitude, between that place and the Sound, 36 26 29; that is, it makes the Sound 173 58 41 $\frac{1}{2}$ East of Greenwich. Allowing its Greenwich rate all the way from Drake's Island it will place the Sound 171 36 25" to the East of Drake's Island, or 167 20 17" East of Greenwich. Lastly, it was 11 h 38 17, 97 too slow for mean time at this place, June 3 at noon, and gained there at the rate of 9, 05 a day consequently it should have been 11 h 14 16, 17 too slow on November 6 at noon; but as I found it only 11 h 14 4, 7, it is manifest that the Watch has erred from its true rate 41 $\frac{1}{2}$, 5 in the interval between these two times.											
In computing the following Longitudes of the ship I assumed the Watch's rate of going as above mentioned that it was 11 h 11 42, 3 too slow for mean time at Queen Charlotte's Sound, on the 22d, at noon, and that the true Longitude of the Observatory was 174° 17 4 $\frac{1}{2}$ East of Greenwich, which is what my Observations, made there this time, gave it.												
— 25	7	59	12	19	27	8	29 36 $\frac{1}{2}$	41 52	175	22 $\frac{1}{2}$	64 61	{ Cape Palliser W N W W 3 or 4 leagues off
— 26			Noon				68 56	41 52			64 $\frac{1}{2}$ 63 $\frac{1}{2}$	Very hazy.
	7	50	21	19	19	16	28 20 $\frac{1}{2}$	43 0 $\frac{1}{2}$	175	45 $\frac{1}{2}$	64 $\frac{1}{2}$ 63 $\frac{1}{2}$	Ditto

ON BOARD THE RESOLUTION.

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1773.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	W.		
b Nov. 27.			Noon.	67 32 $\frac{1}{2}$	43 26 $\frac{1}{2}$		62	62		
	17	11 38 $\frac{1}{2}$	4 41 46	28 14	43 50 $\frac{1}{2}$	176 5 $\frac{1}{2}$	63 $\frac{1}{2}$	61	5	
D — 29.	7	48 48	19 20 10	28 40 $\frac{1}{2}$	44 18 $\frac{1}{2}$	176 29	62	54	5	
			Noon.	66 44	44 36 $\frac{1}{2}$		64 $\frac{1}{2}$	55		
	17	12 31	4 45 50	27 47 $\frac{1}{2}$	44 50	177 8 $\frac{1}{2}$	64	54 $\frac{1}{2}$	5	
	7	51 24 $\frac{1}{2}$	19 28 3	30 19 $\frac{1}{2}$	45 34 $\frac{1}{2}$	178 3 $\frac{1}{2}$	56 $\frac{1}{2}$	48	5	
8 — 30.			Noon.	65 40 $\frac{1}{2}$	45 49 $\frac{1}{2}$		59	49		
	17	34 9 $\frac{1}{2}$	5 12 44	23 19 $\frac{1}{2}$	46 3 $\frac{1}{2}$	178 35 $\frac{1}{2}$	60	49	5	Very cloudy.
	7	54 25 $\frac{1}{2}$	19 35 37	31 43 $\frac{1}{2}$	46 54	179 10 $\frac{1}{2}$	56	48	5	Very hazy.
W Dec. 1.			Noon.	64 35 $\frac{1}{2}$	47 4 $\frac{1}{2}$		59	49 $\frac{1}{2}$		Very cloudy.
Th — 2.			Noon.	63 26 $\frac{1}{2}$	48 21 $\frac{1}{2}$		57	46 $\frac{1}{2}$		Ditto.
F — 3.			Noon.	63 0 $\frac{1}{2}$	48 56 $\frac{1}{2}$		56 $\frac{1}{2}$	47		Hazy.
S — 4.	5	44 32	17 26 1	11 39 $\frac{1}{2}$	50 4 $\frac{1}{2}$	179 57 $\frac{1}{2}$	54	45	5	
○ — 5.			Noon.	61 59	50 14 $\frac{1}{2}$		62 $\frac{1}{2}$	46 $\frac{1}{2}$		
	17	48 50 $\frac{1}{2}$	5 28 49	21 47 $\frac{1}{2}$	50 18 $\frac{1}{2}$	179 37 $\frac{1}{2}$	63 $\frac{1}{2}$	46 $\frac{1}{2}$	6	
	8	7 49	19 47 0	33 51 $\frac{1}{2}$	50 38 $\frac{1}{2}$	179 33 $\frac{1}{2}$	57 $\frac{1}{2}$	47 $\frac{1}{2}$	6	
D — 6.			Noon.	61 26 $\frac{1}{2}$	50 54 $\frac{1}{2}$		65	49		Very cloudy.
	10	38 26	22 19 18	54 0 $\frac{1}{2}$	52 53	180 5 $\frac{1}{2}$			6	
8 — 7.			Noon.	59 20 $\frac{1}{2}$	53 7 $\frac{1}{2}$		63 $\frac{1}{2}$	49		
	16	15 15 $\frac{1}{2}$	3 57 40	35 53 $\frac{1}{2}$	53 35 $\frac{1}{2}$	180 31	60	48 $\frac{1}{2}$	6	
	7	24 47	19 9 16	28 7 $\frac{1}{2}$	55 11 $\frac{1}{2}$	181 7 $\frac{1}{2}$	49	50	6	Cloudy.
	9	23 50	21 7 51	44 22 $\frac{1}{2}$	55 18 $\frac{1}{2}$	181 1 $\frac{1}{2}$	54	45	6	Flying clouds.
W — 8.			Noon.	56 54 $\frac{1}{2}$	55 39 $\frac{1}{2}$		57 $\frac{1}{2}$	43 $\frac{1}{2}$		
	16	29 53	4 16 22	32 56 $\frac{1}{2}$	56 4 $\frac{1}{2}$	181 41	61	43	6	
	9	42 23	21 29 21	45 40 $\frac{1}{2}$	57 44 $\frac{1}{2}$	181 54 $\frac{1}{2}$	55	45	6	
	10	14 5		48 52 $\frac{1}{2}$	58 6 $\frac{1}{2}$	Ship's course S. S. E. 6 $\frac{1}{2}$ miles an hour.			6	Hazy.
Th — 9.	12	54 39 $\frac{1}{2}$		53 43 $\frac{1}{2}$	58 22 $\frac{1}{2}$				6	
	16	23 25 $\frac{1}{2}$		33 12 $\frac{1}{2}$	58 22 $\frac{1}{2}$	182 21 $\frac{1}{2}$	62 $\frac{1}{2}$	43 $\frac{1}{2}$	3	
F — 10.	9	52 46	21 57 25	46 43 $\frac{1}{2}$	60 31	186 38 $\frac{1}{2}$	52 $\frac{1}{2}$	39 $\frac{1}{2}$	6	Cloudy.
S — 11.			Noon.	52 6	60 44 $\frac{1}{2}$		57 $\frac{1}{2}$	39 $\frac{1}{2}$		
	16	11 26	4 18 26	31 59 $\frac{1}{2}$	61 11 $\frac{1}{2}$	187 23 $\frac{1}{2}$	56 $\frac{1}{2}$	39 $\frac{1}{2}$	6	
○ — 12.			Noon.	50 9 $\frac{1}{2}$	62 46 $\frac{1}{2}$		54	32 $\frac{1}{2}$		
	16	25 55	4 44 57	28 47	63 4	190 26 $\frac{1}{2}$	59	35	6	Very cloudy.
	18	52 25 $\frac{1}{2}$	7 13 24 $\frac{1}{2}$	12 34 $\frac{1}{2}$	63 10 $\frac{1}{2}$	190 56 $\frac{1}{2}$				
D — 13.	7	5 36 $\frac{1}{2}$	19 44 52	31 51 $\frac{1}{2}$	64 38 $\frac{1}{2}$	195 45 $\frac{1}{2}$	42	31 $\frac{1}{2}$	6	
8 — 14.			Noon.	48 8 $\frac{1}{2}$	64 55 $\frac{1}{2}$		51 $\frac{1}{2}$	34 $\frac{1}{2}$		
	15	50 45	4 36 54 $\frac{1}{2}$	29 30	65 12 $\frac{1}{2}$	197 32	51	35	6	
Th — 16.			Noon.	48 54 $\frac{1}{2}$	64 15 $\frac{1}{2}$		52	33		A great sea.
F — 17.	11	23 57 $\frac{1}{2}$		48 10 $\frac{1}{2}$	64 35	Lying too, Ship's Head N. Eastward.			6	
	12	58 41 $\frac{1}{2}$		43 24 $\frac{1}{2}$	64 31				6	
	15	35 11 $\frac{1}{2}$		28 23 $\frac{1}{2}$	64 31	204 59 $\frac{1}{2}$	56	33	6	
○ — 19.			Noon.	48 27 $\frac{1}{2}$	64 47 $\frac{1}{2}$		57 $\frac{1}{2}$	34		
	14	49 36		30 38 $\frac{1}{2}$	64 49 $\frac{1}{2}$	211 24			6	
D — 20.			Noon.	47 18	65 58		55	33		
8 — 21.			Noon.	46 29 $\frac{1}{2}$	66 48		55	34		Very foggy.
W — 22.			Noon.	45 50	67 26 $\frac{1}{2}$		50	33		Very good.

1773	Time by Watch	Apparent Time	Altitude of the ☉ S L L	Latitude S	Longitude E by K	Thermom A B	No of Obs	Remarks
	H	M						
Dec 22	5 51 42	20 11 26	33 51 $\frac{1}{2}$	67 14	221 34	41 51 $\frac{1}{2}$	6	Cloudy
23		Noon	46 4	67 12 $\frac{1}{2}$		53 35		
24	14 46 55 $\frac{1}{2}$	5 8 42	26 15 $\frac{1}{2}$	67 5	223 4	53 33	6	
	16 9 43	6 33 2	18 11 $\frac{1}{2}$	67 3	223 26 $\frac{1}{2}$	55 33	10	
25		Noon	46 52 $\frac{1}{2}$	66 21 $\frac{1}{2}$		50 34		
26		Noon	46 57 $\frac{1}{2}$	66 14 $\frac{1}{2}$		56 37		
	14 52 4 $\frac{1}{2}$	5 24 29 $\frac{1}{2}$	24 4 $\frac{1}{2}$	66 6	226 1 $\frac{1}{2}$	58 35	6	
	5 17 54 $\frac{1}{2}$	19 52 11	32 23 $\frac{1}{2}$	65 51 $\frac{1}{2}$	226 35 $\frac{1}{2}$	47 36	5	
27		Noon	47 16 $\frac{1}{2}$	65 53 $\frac{1}{2}$		53 35		
	14 12 54 $\frac{1}{2}$	4 46 57	28 28 $\frac{1}{2}$	65 46 $\frac{1}{2}$	226 35 $\frac{1}{2}$	52 $\frac{1}{2}$ 34	6	
29	14 41 10 $\frac{1}{2}$	5 9 29	26 6 $\frac{1}{2}$	62 10	225 29 $\frac{1}{2}$	34 $\frac{1}{2}$	6	
30	4 55 27 $\frac{1}{2}$	19 17 59	29 24 $\frac{1}{2}$	59 56	224 47 $\frac{1}{2}$	47 33	6	
31		Noon	53 15 $\frac{1}{2}$	59 40		54 35 $\frac{1}{2}$		
	15 16 36	5 39 23	22 11 $\frac{1}{2}$	59 38	224 58 $\frac{1}{2}$	63 35	6	
	5 54 19 $\frac{1}{2}$	21 14 40	43 21 $\frac{1}{2}$	59 17 $\frac{1}{2}$	223 54 $\frac{1}{2}$	50 $\frac{1}{2}$ 34 $\frac{1}{2}$	6	
1774								
Jan 1		Noon	53 39 $\frac{1}{2}$	59 11 $\frac{1}{2}$		61 $\frac{1}{2}$ 36 $\frac{1}{2}$		W W Mr Gilpin
	15 54 33	6 13 10	53 39 $\frac{1}{2}$	59 11 $\frac{1}{2}$				
	3 22 16	17 38 47	17 43 $\frac{1}{2}$	58 48	223 32 $\frac{1}{2}$	59 $\frac{1}{2}$ 37 $\frac{1}{2}$	6	
2		Noon	54 47 $\frac{1}{2}$	58 4	223 5 $\frac{1}{2}$	51 $\frac{1}{2}$ 34 $\frac{1}{2}$	6	
3	8 4 37 $\frac{1}{2}$	22 10 23	50 20 $\frac{1}{2}$	56 52 $\frac{1}{2}$		61 38 $\frac{1}{2}$		
		Noon	55 54	56 46 $\frac{1}{2}$			6	
4	14 13 55	4 17 36	32 45 $\frac{1}{2}$	56 27	220 6 $\frac{1}{2}$	55 36		
		Noon	57 39	54 55 $\frac{1}{2}$		61 $\frac{1}{2}$ 39	6	
5	6 9 56	20 21 42	38 38 $\frac{1}{2}$	53 57	222 5	59 $\frac{1}{2}$ 46 $\frac{1}{2}$		
		Noon	58 44	53 43 $\frac{1}{2}$		51 $\frac{1}{2}$ 17	5	
6	6 11 9	20 29 32	40 3 $\frac{1}{2}$	52 23	224 11 $\frac{1}{2}$	55 $\frac{1}{2}$ 46 $\frac{1}{2}$	6	
		Noon	60 21	51 59 $\frac{1}{2}$		50 $\frac{1}{2}$ 46		
	14 34 28 $\frac{1}{2}$	4 55 18	27 12 $\frac{1}{2}$	51 42 $\frac{1}{2}$	224 50 $\frac{1}{2}$	55 $\frac{1}{2}$ 47	6	
	5 27 1 $\frac{1}{2}$	19 53 10 $\frac{1}{2}$	34 45 $\frac{1}{2}$	50 47	224 50 $\frac{1}{2}$	55 50	6	
	6 17 7	20 43 27	42 30 $\frac{1}{2}$	50 45 $\frac{1}{2}$	226 16	52 $\frac{1}{2}$ 47 $\frac{1}{2}$	6	
7		Noon	61 37	50 36 $\frac{1}{2}$	226 18 $\frac{1}{2}$		6	
	14 28 15	4 57 48	26 39 $\frac{1}{2}$	50 19 $\frac{1}{2}$		61 $\frac{1}{2}$ 50		
	6 13 55	20 48 47	43 40 $\frac{1}{2}$	49 19 $\frac{1}{2}$	226 55 $\frac{1}{2}$	66 $\frac{1}{2}$ 50 $\frac{1}{2}$	6	
	6 29 19	21 4 14	46 2 $\frac{1}{2}$	49 19	228 36	56 47 $\frac{1}{2}$	6	
	6 59 11	21 34 16	50 27 $\frac{1}{2}$	49 17	228 36 $\frac{1}{2}$		6	
8		Noon	62 58	49 7 $\frac{1}{2}$	228 39 $\frac{1}{2}$		6	
			62 57 $\frac{1}{2}$	49 8 $\frac{1}{2}$		61 $\frac{1}{2}$ 49 $\frac{1}{2}$		By W W By Mr Gilpin
	14 15 38	4 54 47	26 58 $\frac{1}{2}$	48 59 $\frac{1}{2}$	229 43	65 $\frac{1}{2}$ 50	3	
9	5 5 7 $\frac{1}{2}$	19 52 56	34 49 $\frac{1}{2}$	48 25 $\frac{1}{2}$	231 58 $\frac{1}{2}$	54 49	6	Cloudy
		Noon	63 40 $\frac{1}{2}$	48 17		61 51 $\frac{1}{2}$		
10	4 23 22	19 22 4	29 34 $\frac{1}{2}$	48 8 $\frac{1}{2}$	234 50 $\frac{1}{2}$	57 49 $\frac{1}{2}$	4	Cloudy
		Noon	63 41	48 7 $\frac{1}{2}$		64 52 $\frac{1}{2}$		
11	4 17 6 $\frac{1}{2}$	19 23 31	29 42 $\frac{1}{2}$	47 50 $\frac{1}{2}$	236 54	54 $\frac{1}{2}$ 48 $\frac{1}{2}$	6	
		Noon	63 48 $\frac{1}{2}$	47 51 $\frac{1}{2}$		62 50		

1774.	Time by Watch K.		Apparent Time.	Altitude of the \odot 's L. L.	Latitude S.	Longitude East by K.		Thermom.		No. of Obs.	Remarks.
	H	"				"	"	A.	B.		
δ Jan. 11.	14	41 49	5 53 23	17 1 $\frac{1}{2}$	48 19 $\frac{1}{2}$	238	16 $\frac{1}{2}$	65	50	6	
	4	8 17 $\frac{1}{2}$	19 24 51	29 49 $\frac{1}{2}$	49 13 $\frac{1}{2}$	239	34 $\frac{1}{2}$	57	53	6	
η — 12.			Noon.	61 56 $\frac{1}{2}$	49 34			63 $\frac{1}{2}$	56		
	13	58 50	5 18 33	22 50 $\frac{1}{2}$	50 0 $\frac{1}{2}$	240	24 $\frac{1}{2}$	65	55	6	
γ — 13.			Noon.	59 19:	52 1 $\frac{1}{2}$			63 $\frac{1}{2}$	53 $\frac{1}{2}$		Foggy.
ϵ — 14.			Noon.	57 15:	53 55 $\frac{1}{2}$			63 $\frac{1}{2}$	51 $\frac{1}{2}$		Ditto.
	13	24 11 $\frac{1}{2}$	4 39 49 $\frac{1}{2}$	28 36 $\frac{1}{2}$	54 27	239	39 $\frac{1}{2}$	64 $\frac{1}{2}$	54 $\frac{1}{2}$	6	Ditto.
ζ — 15.	4	49 6	20 6 23 $\frac{1}{2}$	34 38 $\frac{1}{2}$	55 59 $\frac{1}{2}$	240	17	55	48	6	A great sea.
\odot — 16.			Noon.	54 30:	56 18 $\frac{1}{2}$			61 $\frac{1}{2}$	47 $\frac{1}{2}$	6	Ditto, and hazy.
	14	18 45	5 37 39	20 16 $\frac{1}{2}$	56 50 $\frac{1}{2}$	240	44	63 $\frac{1}{2}$	49	6	
	4	17 58 $\frac{1}{2}$		30 22 $\frac{1}{2}$	58 7	241	16 $\frac{1}{2}$	52	43 $\frac{1}{2}$	6	
δ — 17.			Noon.	52 3:	58 34			60 $\frac{1}{2}$	41 $\frac{1}{2}$		Foggy.
	12	52 8		30 53 $\frac{1}{2}$	58 58 $\frac{1}{2}$	241	57 $\frac{1}{2}$	58 $\frac{1}{2}$	41	6	
δ — 18.	13	3 46	4 32 1	28 18 $\frac{1}{2}$	61 6	243	18 $\frac{1}{2}$	56 $\frac{1}{2}$	41 $\frac{1}{2}$	6	
η — 19.	2	18 54 $\frac{1}{2}$	17 48 49	16 26 $\frac{1}{2}$	62 28	243	53 $\frac{1}{2}$	51	47 $\frac{1}{2}$	6	
γ — 20.			Noon.	47 25 $\frac{1}{2}$	62 31 $\frac{1}{2}$			60	40		
	12	53 59 $\frac{1}{2}$	4 21 43	28 51 $\frac{1}{2}$	62 37 $\frac{1}{2}$	243	23 $\frac{1}{2}$	61 $\frac{1}{2}$	38	6	
ϵ — 21.	8	46 51		47 16 $\frac{1}{2}$	62 26	N. W. $\frac{1}{2}$ N. at 2d Observ. Ship's course E. $\frac{1}{2}$ N. 4 $\frac{1}{2}$ miles an hour.				4	
	9	41 19		45 42 $\frac{1}{2}$						6	
	12	44 20	4 13 7 $\frac{1}{2}$	29 34 $\frac{1}{2}$	62 20 $\frac{1}{2}$	244	1	59	38	10	
ζ — 22.	4	0 14	19 49 3	29 38 $\frac{1}{2}$	62 18 $\frac{1}{2}$	248	57	47	37	6	
\odot — 23.			Noon.	46 57 $\frac{1}{2}$	62 22 $\frac{1}{2}$			55 $\frac{1}{2}$	38 $\frac{1}{2}$		Cloudy.
δ — 24.	4	47 14	20 41 44	33 25	65 15 $\frac{1}{2}$	250	34 $\frac{1}{2}$	54	41		
ϵ — 25.			Noon.	43 26 $\frac{1}{2}$	65 24 $\frac{1}{2}$			60 $\frac{1}{2}$	42 $\frac{1}{2}$		Hazy.
	14	35 14	6 28 46	14 12 $\frac{1}{2}$	65 45	250	22 $\frac{1}{2}$	62	39 $\frac{1}{2}$	6	
	3	3 2	18 55 54	22 37 $\frac{1}{2}$	66 25	250	15 $\frac{1}{2}$	50		5	
η — 26.			Noon.	42 1:	66 35 $\frac{1}{2}$			58 $\frac{1}{2}$	40		
γ — 27.			Noon.	40 29 $\frac{1}{2}$	67 51 $\frac{1}{2}$			60	37 $\frac{1}{2}$		
ϵ — 28.	3	13 8	19 12 10	22 50 $\frac{1}{2}$	69 41	252	3 $\frac{1}{2}$	46 $\frac{1}{2}$	34 $\frac{1}{2}$		
	3	52 58	19 52 6	26 17 $\frac{1}{2}$	69 42 $\frac{1}{2}$	252	5			4	
ζ — 29.			Noon.	37 51 $\frac{1}{2}$	69 58 $\frac{1}{2}$			53	36 $\frac{1}{2}$		
	12	42 32	4 44 23 $\frac{1}{2}$	13 3 $\frac{1}{2}$	70 18	252	47 $\frac{1}{2}$	63		5	
δ — 31.			Noon.	38 4: $\frac{1}{2}$	69 13			58 $\frac{1}{2}$	34		
	3	32 17	19 40 27	25 0 $\frac{1}{2}$	68 13	254	34 $\frac{1}{2}$	58 $\frac{1}{2}$	35	6	
	3	44 3	19 52 13	26 2 $\frac{1}{2}$	68 12 $\frac{1}{2}$	254	34 $\frac{1}{2}$			3	
	7	41 59		38 57						3	
δ Feb. 1.				38 59: $\frac{1}{2}$	68 1 $\frac{1}{2}$			58 $\frac{1}{2}$	35	5	} Latit. by two } Alt. 68° 0 $\frac{1}{2}$ S.
	8	19 58		38 47 $\frac{1}{2}$						5	
	5	24 18		34 27 $\frac{1}{2}$	N. Ship's course N. E. by N. 4 miles an hour.					3	
	7	31 17		39 30 $\frac{1}{2}$					4		
η — 2.			Noon.	39 35 $\frac{1}{2}$	67 7 $\frac{1}{2}$			54	37		
γ — 3.			Noon.	40 1	66 25			57	35		

Latit. by two
Alt. 68° 0 $\frac{1}{2}$ S.

ASTRONOMICAL OBSERVATIONS

1774		Time by Watch K		Apparent Time	Altitude of the \odot at L	Latitude S	Longitude East by I	Thermom		No of Obs	Remarks
		H	M					A	B		
24 Feb	3	12 34	2	4 48 25	21 8	66 18	258 47 $\frac{1}{2}$			5	
4	4	3 11 51		19 39 35 $\frac{1}{2}$	24 50 $\frac{1}{2}$	65 46 $\frac{1}{2}$	259 40	49	34	5	
				Noon	40 26 $\frac{1}{2}$	65 41 $\frac{1}{2}$		58 $\frac{1}{2}$	34 $\frac{1}{2}$	6	
		11 42 3		4 10 2	25 47 $\frac{1}{2}$	65 36	259 44 $\frac{1}{2}$	61	34 $\frac{1}{2}$	6	
		2 55 13		19 22 29	23 16 $\frac{1}{2}$	64 28 $\frac{1}{2}$	259 36	49	37 $\frac{1}{2}$	6	
	5	11 48 41		4 15 50 $\frac{1}{2}$	25 26 $\frac{1}{2}$	63 58 $\frac{1}{2}$	259 35 $\frac{1}{2}$			6	
		5 28 34			37 10 $\frac{1}{2}$					5	
	6			Noon	41 38	63 53 $\frac{1}{2}$		60	39 $\frac{1}{2}$	5	
		3 21 48		19 55 23 $\frac{1}{2}$	25 57 $\frac{1}{2}$	61 31 $\frac{1}{2}$	161 17 $\frac{1}{2}$	46	37	5	
	7			Noon	44 9	61 5 $\frac{1}{2}$		55	40	5	
		12 35 24		5 10 30 $\frac{1}{2}$	19 13 $\frac{1}{2}$	60 30 $\frac{1}{2}$	261 41 $\frac{1}{2}$	60 $\frac{1}{2}$	38	5	Cloudy & bad horizon
	9	3 40 32		10 17 21 $\frac{1}{2}$	11 23 $\frac{1}{2}$	54 2 $\frac{1}{2}$	262 15	54 $\frac{1}{2}$	44	5	
	10			Noon	50 39 $\frac{1}{2}$	53 36 $\frac{1}{2}$		60	47	5	
		12 18 45 $\frac{1}{2}$		4 55 14	20 59 $\frac{1}{2}$	53 9	262 12	64	47	5	
	11	8 8 39			50 53 $\frac{1}{2}$		ON 76 W at 2d			4	Strong wind, and a high sea
		10 20 50			37 20 $\frac{1}{2}$	51 33 $\frac{1}{2}$	obl Ship's course			4	
							N $\frac{1}{2}$ E 6 $\frac{1}{2}$ m an h			4	
		13 8 50		5 52 52 $\frac{1}{2}$	11 43	51 12 $\frac{1}{2}$	264 17 $\frac{1}{2}$	62 $\frac{1}{2}$	49 $\frac{1}{2}$	6	A high sea
	12	3 10 47		19 51 14	28 35 $\frac{1}{2}$	50 23 $\frac{1}{2}$	263 58 $\frac{1}{2}$	53 $\frac{1}{2}$	47 $\frac{1}{2}$	4	Cloudy
				Noon	53 21 $\frac{1}{2}$	50 15		59 $\frac{1}{2}$	47 $\frac{1}{2}$	4	
	13	13 44 16		6 27 32	6 6 $\frac{1}{2}$	50 11	263 57	64 $\frac{1}{2}$	49	4	
				Noon	53 4	50 12 $\frac{1}{2}$		60 $\frac{1}{2}$	52	6	
	14	11 49 35 $\frac{1}{2}$		4 27 49 $\frac{1}{2}$	24 44 $\frac{1}{2}$	50 26 $\frac{1}{2}$	262 43 $\frac{1}{2}$	64 $\frac{1}{2}$	51 $\frac{1}{2}$	6	
		12 14 28		4 55 9	20 14	49 28	263 21 $\frac{1}{2}$	68	51 $\frac{1}{2}$	6	
	15	3 6 42		19 45 25 $\frac{1}{2}$	26 42 $\frac{1}{2}$	48 55	262 53 $\frac{1}{2}$	59 $\frac{1}{2}$	51	6	
	16			Noon	53 41	48 55		63 $\frac{1}{2}$	54	6	Thick fog
				Noon	54 30 $\frac{1}{2}$	47 45		59 $\frac{1}{2}$	56	6	Foggy
		3 2 41		19 50 3	27 25 $\frac{1}{2}$	46 32 $\frac{1}{2}$	265 15	60	53	6	Very hazy
		6 25 10			54 10 $\frac{1}{2}$					5	Ditto
	17			Noon	55 37 $\frac{1}{2}$	46 17 $\frac{1}{2}$	ON Ship's course			5	Ditto
		7 38 55			55 10 $\frac{1}{2}$	46 15 $\frac{1}{2}$	N 4 m an ho 155			5	Ditto
	18	3 11 37		20 0 19	29 21 $\frac{1}{2}$	44 37 $\frac{1}{2}$	By two Altitudes			5	Ditto
				Noon	57 23 $\frac{1}{2}$	44 10 $\frac{1}{2}$	265 26 $\frac{1}{2}$	55 $\frac{1}{2}$	52	6	A high sea
		10 17 0			38 53 $\frac{1}{2}$	43 52 $\frac{1}{2}$		56 $\frac{1}{2}$	50 $\frac{1}{2}$	6	Ditto
	19	3 19 57		20 3 7	30 6 $\frac{1}{2}$	42 24 $\frac{1}{2}$	265 6 $\frac{1}{2}$			6	Ditto
				Noon	59 6 $\frac{1}{2}$	42 5 $\frac{1}{2}$	264 5	58	55	4	Cloudy
		12 1 8		4 44 47	41 20 $\frac{1}{2}$	41 43 $\frac{1}{2}$	264 12 $\frac{1}{2}$	60 $\frac{1}{2}$	58 $\frac{1}{2}$	6	
	20	3 20 24		20 6 20 $\frac{1}{2}$	30 46 $\frac{1}{2}$	40 21	264 47 $\frac{1}{2}$	63 $\frac{1}{2}$	59	6	
				Noon	60 51 $\frac{1}{2}$	39 59 $\frac{1}{2}$		64	61	6	
		10 35 31		3 22 13 $\frac{1}{2}$	36 47 $\frac{1}{2}$	39 43 $\frac{1}{2}$	264 59	66 $\frac{1}{2}$	66	10	
	21	2 1 2		18 49 27	16 9 $\frac{1}{2}$	38 21	265 25	69	66	6	
				Noon	62 35 $\frac{1}{2}$	37 53 $\frac{1}{2}$		68 $\frac{1}{2}$	67 $\frac{1}{2}$	10	
		11 42 20		4 31 31	23 46 $\frac{1}{2}$	37 31 $\frac{1}{2}$	265 21 $\frac{1}{2}$			10	
	22	2 43 43			23 53 $\frac{1}{2}$	36 24	264 52	70 $\frac{1}{2}$	68 $\frac{1}{2}$	5	
				Noon	63 57	36 10 $\frac{1}{2}$		72 $\frac{1}{2}$	69	5	

ON BOARD THE RESOLUTION.

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1774.	Time by Watch K.		Apparent Time.	Altitude of the Sun L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
Feb. 22.	3	7	23	19 45 31 $\frac{1}{2}$	26 54 $\frac{1}{2}$	36 34 $\frac{1}{2}$	262 51 $\frac{1}{2}$		5	
" 23.			Noon.	63 4	36 41 $\frac{1}{2}$		71 $\frac{1}{2}$	69		
	12	10	47	4 46 34	20 24 $\frac{1}{2}$	36 48	262 1 $\frac{1}{2}$	69	5	
	2	32	41		18 26 $\frac{1}{2}$	37 16 $\frac{1}{2}$	261 13 $\frac{1}{2}$	69 71	6	
" 24.			Noon.	61 56	37 27 $\frac{1}{2}$		73 $\frac{1}{2}$	71		
	4	6	24		34 25 $\frac{1}{2}$	37 49 $\frac{1}{2}$	258 42 $\frac{1}{2}$	72 70	6	
" 25.			Noon.	61 7 $\frac{1}{2}$	37 53 $\frac{1}{2}$		71	69		Cloudy.
	12	37	30		17 45 $\frac{1}{2}$	37 45	258 18 $\frac{1}{2}$	71 $\frac{1}{2}$ 68 $\frac{1}{2}$	6	
	3	30	27 $\frac{1}{2}$	19 48 15 $\frac{1}{2}$	26 43 $\frac{1}{2}$	36 53 $\frac{1}{2}$	257 46 $\frac{1}{2}$	69 65 $\frac{1}{2}$	6	
" 26.			Noon.	61 59	36 39 $\frac{1}{2}$		67 $\frac{1}{2}$	65		
	13	27	22	5 43 19	8 24 $\frac{1}{2}$	36 11	257 18 $\frac{1}{2}$	70 $\frac{1}{2}$ 64 $\frac{1}{2}$	5	
	4	42	55	20 57 26	40 25 $\frac{1}{2}$	35 4	256 56 $\frac{1}{2}$	67	5	
" 27.			Noon.	63 22 $\frac{1}{2}$	34 54		68 $\frac{1}{2}$	68 $\frac{1}{2}$		
	12	31	9	4 45 33	19 53 $\frac{1}{2}$	34 33 $\frac{1}{2}$	256 54 $\frac{1}{2}$	68	6	
	3	40	7	19 53 54	27 59 $\frac{1}{2}$	33 24 $\frac{1}{2}$	256 44 $\frac{1}{2}$	70 $\frac{1}{2}$ 69 $\frac{1}{2}$	5	Very cloudy.
" 28.			Noon.	64 44 $\frac{1}{2}$	33 9		72	71 $\frac{1}{2}$		
	3	13	11	19 25 19 $\frac{1}{2}$	21 58 $\frac{1}{2}$	32 27	256 20		5	
" March 1.			Noon.	65 14 $\frac{1}{2}$	32 17		74 $\frac{1}{2}$	71 $\frac{1}{2}$		
	12	55	24	5 8 2	14 52 $\frac{1}{2}$	32 6	256 26 $\frac{1}{2}$	76 $\frac{1}{2}$ 73 $\frac{1}{2}$	5	
	3	37	46	19 51 11	27 20 $\frac{1}{2}$	31 21 $\frac{1}{2}$	256 38		5	
" 2.			Noon.	65 54 $\frac{1}{2}$	31 13 $\frac{1}{2}$			74 74		
	12	38	5	4 52 9	18 5 $\frac{1}{2}$	31 5 $\frac{1}{2}$	256 47 $\frac{1}{2}$	74	6	
	3	39	40 $\frac{1}{2}$	19 55 13	28 5 $\frac{1}{2}$	30 39 $\frac{1}{2}$	257 9	73 $\frac{1}{2}$ 71	5	
" 3.			Noon.	66 8 $\frac{1}{2}$	30 36 $\frac{1}{2}$		75	74		
	12	47	53		15 2	30 26 $\frac{1}{2}$	257 41 $\frac{1}{2}$	78 $\frac{1}{2}$ 75	3	
	3	23	53	19 42 49	25 25	30 6	257 59 $\frac{1}{2}$	75 $\frac{1}{2}$ 74	5	
" 4.			Noon.	66 24	29 58 $\frac{1}{2}$		75 $\frac{1}{2}$	74 $\frac{1}{2}$		
	12	18	35	4 38 17	20 45 $\frac{1}{2}$	29 52 $\frac{1}{2}$	258 10	78 $\frac{1}{2}$ 76	5	
	2	44	9 $\frac{1}{2}$	19 4 28	16 55 $\frac{1}{2}$	29 46	258 18 $\frac{1}{2}$		5	
" 5.			Noon.	66 15	29 44 $\frac{1}{2}$		77 $\frac{1}{2}$	75		
	12	34	46	4 55 4	16 57 $\frac{1}{2}$	29 41 $\frac{1}{2}$	258 17 $\frac{1}{2}$		6	
	3	35	43 $\frac{1}{2}$	19 55 2	27 39 $\frac{1}{2}$	29 30 $\frac{1}{2}$	258 2 $\frac{1}{2}$		6	Cloudy.
" 6.			Noon.	66 14 $\frac{1}{2}$	29 21 $\frac{1}{2}$		76	74		
	12	57	3 $\frac{1}{2}$	5 14 52	12 30 $\frac{1}{2}$	29 11 $\frac{1}{2}$	257 39	76 $\frac{1}{2}$ 73 $\frac{1}{2}$	6	
	2	46	46	19 2 0	16 4 $\frac{1}{2}$	28 36	256 59 $\frac{1}{2}$		6	Cloudy.
" 7.			Noon.	66 53	28 19 $\frac{1}{2}$		75 $\frac{1}{2}$	74 $\frac{1}{2}$		
	13	3	12 $\frac{1}{2}$	5 16 24	11 59 $\frac{1}{2}$	28 2	256 28 $\frac{1}{2}$	74	5	
	2	42	25	18 51 26	13 37 $\frac{1}{2}$	27 16 $\frac{1}{2}$	255 25	76 73 $\frac{1}{2}$	6	
" 8.			Noon.	67 45 $\frac{1}{2}$	27 3 $\frac{1}{2}$		76	75 $\frac{1}{2}$		
	3	39	56 $\frac{1}{2}$		24 20	27 6	253 19 $\frac{1}{2}$	74 $\frac{1}{2}$	6	
" 9.			Noon.	67 19	27 6 $\frac{1}{2}$		76 $\frac{1}{2}$	77		
	12	55	59	3 54 25	29 43 $\frac{1}{2}$	27 7	252 44	76 $\frac{1}{2}$ 76 $\frac{1}{2}$	6	
" 10.			Noon.	66 53	27 9 $\frac{1}{2}$		76	76 $\frac{1}{2}$		
	11	37	17	3 27 46 $\frac{1}{2}$	35 17 $\frac{1}{2}$	27 9 $\frac{1}{2}$	250 43 $\frac{1}{2}$	76 76	6	
	5	8	6	20 55 34	40 4 $\frac{1}{2}$	27 10 $\frac{1}{2}$	249 56 $\frac{1}{2}$	76 75	6	
" 11.			Noon.	66 27 $\frac{1}{2}$	27 10 $\frac{1}{2}$		76 $\frac{1}{2}$	75		

1774	Time by Watch K	Apparent Time	Altitude of the ☉ I L	Latitude South	Longitude East by K	The moon		COS	Remarks
	H	H				A	B		
7 March 11	5 20 50	5 6 47½	13 24½	27 11½	249 33½	76	75½	6	
h — 12		Noon	65 57½	27 17½		75½	75½		
	3 53 16	19 37 20	22 50½	27 11	249 2	74½	75½	2	Off the South Point of L'Anse-au-Loup
O — 13		Noon	65 45	27 6½		76	74		Off the North Point of ditto
D — 14		Noon	65 20	27 7½		74½	74		At Anchor off the N W side of ditto
h — 16	10 43 8	2 27 20	46 53½	27 8	249 3½	75½	74	6	
		Noon	64 33½	27 7		74	75		Off the N W side of ditto
h — 17	11 38 51	3 23 3	35 4½	27 7	248 57½	75	75	6	
	3 33 8	19 15 41½	17 22½	26 66	248 32½	77½	77		
h — 18		Noon	64 28½	26 48		77	76½	5	Cloudy
	12 37 27	4 18 17	23 5	26 38½	248 5½	77	76½		
h — 19	3 11 41	18 50 34½	11 43½	26 16	247 34½	76½	75½	5	
		Noon	64 48½	26 4½		78	76		
	11 41 57½	3 20 42	35 31½	26 0	247 31			5	
h — 20	5 3 15	20 40 28	35 54½	25 6½	247 7½			6	Very cloudy
		Noon	65 37½	24 51½		77	77		
	11 23 32	3 0 6½	40 6½	24 41½	246 57	77½	76	1	Cloudy
O — 21	5 8 31	20 42 48	36 45½	23 21½	246 20½	77½	77	5	
		Noon	67 4½	23 1½		77	71		
h — 22	5 20 24	20 51 18½	39 4½	21 23½	245 28	77	77½		
		Noon	68 38½	21 3½		78½	77		
h — 23	11 40 17	3 10 15	38 51½	20 48½	245 13½	78	76	6	Cloudy
		Noon	69 57	19 21		76	75½	10	
h — 24	11 37 20½	3 3 31	40 39½	19 13	244 14	77	76½	5	
	5 36 20	20 58 30	41 17½	18 18½	243 12½	77	76½		
h — 25		Noon	70 44½	18 9½		79	77½	6	
	5 39 14	20 57 6	41 7½	17 16	242 5½	77	75½		
h — 26		Noon	71 24	17 6½		78½	77		
	13 21 30	4 28 9½	18 57½	16 55	241 46½	79	77	5	
h — 27	4 2 52	19 16 18	17 38½	16 18½	240 56½	78½	76	6	
		Noon	72 5½	16 1½		79	78		
	13 3 0½	4 14 45½	24 31½	15 51½	240 30½	79½	76½	6	
h — 28	3 51 10	18 59 12	13 36½	15 4½	239 33½	78	78	6	
		Noon	72 57½	14 45½		78½	78½		
	13 55 31	5 1 9½	13 31½	14 28½	238 55½	79½	78	5	
O — 29	4 25 48	19 27 28	20 27½	13 29½	237 55½	78½	78½	6	
		Noon	74 7	13 12½		79½	80		
h — 30	13 32 29	4 32 0	20 37½	12 57½	237 24½	80	79	6	
	4 2 15		13 20½	12 3½	236 18½	79	78½	6	
h — 31		Noon	75 10½	11 45½		80½	80		
	13 30 37		22 36½	11 32½	235 50	80	80	6	
h — 32	4 13 3	19 2 40	14 37½	10 38½	234 49½	79½	79½	6	
		Noon	76 12½	10 20½		81	81		
h — 33	14 8 54	4 55 50	15 0½	10 10½	234 8½	81	80½	5	

1774.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.		
	H	M	H	°	°	°	A.	B.				
March 29.	4	40	5	19 21 52	19 20 $\frac{1}{2}$	9 34	232	49 $\frac{1}{2}$	80	79	6	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.
30.				Noon.	76 47	9 22 $\frac{1}{2}$			80 $\frac{1}{2}$	80 $\frac{1}{2}$		
	13	48	32	4 27 21	21 58 $\frac{1}{2}$	9 21 $\frac{1}{2}$	232	4	80	80	6	
	5	0	41	19 33 45 $\frac{1}{2}$	22 11 $\frac{1}{2}$	9 18 $\frac{1}{2}$	230	36 $\frac{1}{2}$	80 $\frac{1}{2}$	80	6	
31.				Noon.	76 28 $\frac{1}{2}$	9 17 $\frac{1}{2}$			80 $\frac{1}{2}$	80 $\frac{1}{2}$		
	14	8	15 $\frac{1}{2}$	4 38 38	19 9 $\frac{1}{2}$	9 20 $\frac{1}{2}$	229	55 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
	4	33	1	18 58 33 $\frac{1}{2}$	13 31 $\frac{1}{2}$	9 27	228	41 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
April 1.				Noon.	75 53	9 29 $\frac{1}{2}$						
	13	23	45	3 47 4	31 33 $\frac{1}{2}$	9 30	228	7	80 $\frac{1}{2}$	81	5	
	4	37	24	18 55 56	12 48 $\frac{1}{2}$	9 29	226	53 $\frac{1}{2}$	80	79 $\frac{1}{2}$	5	
2				Noon.	75 30 $\frac{1}{2}$	9 28 $\frac{1}{2}$			81	81 $\frac{1}{2}$		
	13	12	55	3 29 14	35 45 $\frac{1}{2}$	9 29	226	19 $\frac{1}{2}$	81	81	4	
	4	42	17	18 53 54 $\frac{1}{2}$	12 14 $\frac{1}{2}$	9 32	225	7	80 $\frac{1}{2}$	80 $\frac{1}{2}$	5	
3.				Noon.	75 4	9 32 $\frac{1}{2}$			81 $\frac{1}{2}$	81 $\frac{1}{2}$		
	13	12	1	3 21 41	37 27 $\frac{1}{2}$	9 32 $\frac{1}{2}$	224	37 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
	4	57	48 $\frac{1}{2}$	19 2 33	14 15 $\frac{1}{2}$	9 32 $\frac{1}{2}$	223	22 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	5	
4.				Noon.	74 41	9 32 $\frac{1}{2}$			82	82 $\frac{1}{2}$		
	13	51	49	3 54 11	29 32 $\frac{1}{2}$	9 32 $\frac{1}{2}$	222	45 $\frac{1}{2}$	82	82 $\frac{1}{2}$	5	
	5	20	51		18 11 $\frac{1}{2}$	9 33 $\frac{1}{2}$	221	42 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
5.				Noon.	74 17	9 33 $\frac{1}{2}$			83	83		
	4	59	0	18 52 22	11 40 $\frac{1}{2}$	9 21	220	24 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
6.				Noon.	74 8	9 19 $\frac{1}{2}$			83	83 $\frac{1}{2}$		
	14	47	33	4 38 12	18 47	9 30	219	45 $\frac{1}{2}$			1	
	5	1	56 $\frac{1}{2}$	18 51 14	11 17 $\frac{1}{2}$	9 36 $\frac{1}{2}$	219	23 $\frac{1}{2}$	80	77 $\frac{1}{2}$	5	
8.				4 12 45	24 38	9 55 $\frac{1}{2}$	218	54 $\frac{1}{2}$	84	82 $\frac{1}{2}$	5	
9				Noon.	72 20 $\frac{1}{2}$	9 55 $\frac{1}{2}$	No Dip.			85		
	13	9	50	2 57 32	42 18 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	55 $\frac{1}{2}$	84	84 $\frac{1}{2}$	5	
10.				Noon.	71 57 $\frac{1}{2}$	9 55 $\frac{1}{2}$	No Dip.		83 $\frac{1}{2}$	84 $\frac{1}{2}$		
	12	49	24	2 37 12	46 49 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	55	83 $\frac{1}{2}$	84 $\frac{1}{2}$	5	
11.				2 37 54 $\frac{1}{2}$	46 40 $\frac{1}{2}$	9 55 $\frac{1}{2}$	218	53	85	85 $\frac{1}{2}$	6	
12.					18 51 $\frac{1}{2}$				80 $\frac{1}{2}$	81 $\frac{1}{2}$	6	
	5	20	13	19 5 26 $\frac{1}{2}$	14 4	10 34 $\frac{1}{2}$	218	11 $\frac{1}{2}$	81 $\frac{1}{2}$	79	5	
13.				Noon.	69 56 $\frac{1}{2}$	10 55 $\frac{1}{2}$			83 $\frac{1}{2}$	82 $\frac{1}{2}$		
	14	37	16	4 21 1 $\frac{1}{2}$	21 51 $\frac{1}{2}$	11 15 $\frac{1}{2}$	217	48 $\frac{1}{2}$	83	82 $\frac{1}{2}$	5	
	5	26	4	19 7 52	14 15 $\frac{1}{2}$	11 54 $\frac{1}{2}$	217	18 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	5	
14.				Noon.	68 5 $\frac{1}{2}$	12 24 $\frac{1}{2}$			83	82 $\frac{1}{2}$		
	14	34	0	4 13 28	23 9 $\frac{1}{2}$	12 40	216	43	83	83	5	
	5	35	21	19 11 56	14 48 $\frac{1}{2}$	13 20	215	58 $\frac{1}{2}$	81 $\frac{1}{2}$	82 $\frac{1}{2}$	5	
15.				Noon.	66 27	13 41 $\frac{1}{2}$			83	83		
	14	2	41	3 36 34	31 9 $\frac{1}{2}$	13 53 $\frac{1}{2}$	215	17 $\frac{1}{2}$	83	82 $\frac{1}{2}$	5	
	5	48	56	19 20 26	16 26 $\frac{1}{2}$	14 17 $\frac{1}{2}$	214	40 $\frac{1}{2}$	82 $\frac{1}{2}$	82	5	
16.				Noon.	55 29	14 17 $\frac{1}{2}$			82 $\frac{1}{2}$	83 $\frac{1}{2}$		
	14	26	0 $\frac{1}{2}$	3 54 56	26 42	14 18	214	2	82 $\frac{1}{2}$	83 $\frac{1}{2}$	6	
	6	7	1	19 33 38	19 19 $\frac{1}{2}$	14 28 $\frac{1}{2}$	213	26 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
17.				Noon.	64 59 $\frac{1}{2}$	14 26 $\frac{1}{2}$						
	14	47	10 $\frac{1}{2}$	4 11 28 $\frac{1}{2}$	22 43 $\frac{1}{2}$	14 29 $\frac{1}{2}$	212	51			8	Off the opening into Tanoak.

At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.

1. Anked from N. 62° W. to S. 66° W. Off shore abt. 2 m.

Off the opening into Tancoah.

1774	Time by Watch K		Apparent Time		Altitude of the ☉ L L		Latitude S	Longitude by k	Therm		u o o r	Remarks
	H	"	H	"					A	B		
0 April 17	5	41 34	19	5 16	12 36 $\frac{1}{2}$	14 34 $\frac{1}{2}$	212 41 $\frac{1}{2}$	82	81	5	{ Oil the candle with the therm King's co. & ill in	
18			Noon		64 18 $\frac{1}{2}$	14 56 $\frac{1}{2}$						
	13	40 38	3	3 8	37 35 $\frac{1}{2}$	15 5 $\frac{1}{2}$	212 23			10		
	5	36 45 $\frac{1}{2}$	18	57 9 $\frac{1}{2}$	10 23 $\frac{1}{2}$	15 33 $\frac{1}{2}$	211 50 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	5		
19			Noon		63 5 $\frac{1}{2}$	15 38 $\frac{1}{2}$		82 $\frac{1}{2}$	82 $\frac{1}{2}$		Amongst the hills & life	
	14	51 14	4	9 13 $\frac{1}{2}$	22 35 $\frac{1}{2}$	15 41 $\frac{1}{2}$	211 13 $\frac{1}{2}$	82	82	6		
20	14	37 29 $\frac{1}{2}$	3	51 0	26 7 $\frac{1}{2}$	16 17	210 23 $\frac{1}{2}$	80	79	6	Cloudy	
	5	59 36	19	9 38 $\frac{1}{2}$	12 34 $\frac{1}{2}$	17 12 $\frac{1}{2}$	209 13	81	81 $\frac{1}{2}$	5		
21			Noon		60 30	17 32 $\frac{1}{2}$		81	81 $\frac{1}{2}$			
<p>Next morning we anchored in Matavai Bay, Otaheite in the afternoon I put my Clock and Instruments up on the usual spot, Point Venus, and on the 2^d and every day afterwards, until May 9th, I compared the Watch K, and Clock together, see p 94. Hence I found that the Watch was 13 h 4 39 2 too slow for mean time at Point Venus on 5 April 23 at noon. Consequently, it gave the difference of longitude, this time, between Queen Charlotte's Sound and Point Venus 33 59 22$\frac{1}{2}$; that is, it makes the latter place 208 16 26 1$\frac{1}{2}$ of Greenwich. Reckoning according to its Greenwich rate all the way from England, it places Point Venus 194° 24' 21" East of Drake's Island, or 190 8 13 1$\frac{1}{2}$ of Greenwich.</p> <p>It appears farther, from p 52, that the watch was 13 h 49 17 5 too slow for mean time at Point Venus, on August 31 1773 at noon and that it was then gaining at the rate of 8",863 a day on mean time. It ought therefore to have been too slow for mean time on 5 April 23 at noon by 13 h 16 1 53, instead of 13 h 4 39 2, and of course the watch has erred 10 33 15, = 38 16, in longitude between these two days.</p> <p>Lastly, it was now gaining 11,833 a day on mean time, and was 13 h 1' 9 56 too slow for mean time at Point Venus on May 9 at noon, and on these suppositions, and that the true longitude of Point Venus is 210 25 10' 1$\frac{1}{2}$ of Greenwich, the following longitudes of the ship are computed.</p>												
May 15	15	3 23	4	1 31 $\frac{1}{2}$	20 38 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 52 $\frac{1}{2}$	82 $\frac{1}{2}$	83	6		
16			Noon		54 0	16 44	Dip 2	83	84 $\frac{1}{2}$		{ In a boat and very uncertain	
	14	9 41	3	7 37 $\frac{1}{2}$	31 27 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 53 $\frac{1}{2}$	84	84 $\frac{1}{2}$	6		
	14	16 46	3	14 39 $\frac{1}{2}$	30 5 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 52 $\frac{1}{2}$	84	84	5		
17			Noon		53 45 $\frac{1}{2}$	16 42 $\frac{1}{2}$	No Dip	82 $\frac{1}{2}$	83		Very certain	
	15	19 56	4	17 40	17 1 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 53 $\frac{1}{2}$	85	83	8		
18			Noon		53 31 $\frac{1}{2}$	16 43 $\frac{1}{2}$	No Dip	83	82 $\frac{1}{2}$		A little uncertain At Owhaire Harbour, near the N part of it	
19			Noon		53 19 $\frac{1}{2}$	16 42 $\frac{1}{2}$		81 $\frac{1}{2}$	80 $\frac{1}{2}$			
	15	6 38 $\frac{1}{2}$	4	3 55	19 43 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 53	83 $\frac{1}{2}$	81 $\frac{1}{2}$	10		
20			Noon		53 6 $\frac{1}{2}$	16 42 $\frac{1}{2}$		82	82 $\frac{1}{2}$			
	15	1 35	3	58 39 $\frac{1}{2}$	20 43 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 53 $\frac{1}{2}$	83 $\frac{1}{2}$	82 $\frac{1}{2}$	3		
	15	14 56 $\frac{1}{2}$	4	12 1	17 56 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 53 $\frac{1}{2}$	83 $\frac{1}{2}$	82 $\frac{1}{2}$	5		
21	15	15 51	4	12 30 $\frac{1}{2}$	17 44 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 51 $\frac{1}{2}$	84	83	8		
22			Noon		52 26	16 51		81	83 $\frac{1}{2}$			
23			Noon		51 54	16 45 $\frac{1}{2}$	No Dip	80	81 $\frac{1}{2}$			
24			Noon		51 43 $\frac{1}{2}$	16 45 $\frac{1}{2}$	No Dip	80	79 $\frac{1}{2}$			

1774.	Time by Watch K.		Apparent Time.	Altitude of the \odot 's L. L.	Latitude South.	Longitude East by K.	Thermom.		Z. of \odot or \star	Remarks.	
	H	M					A.	B.			
♀ May 27.	13	43	46 $\frac{1}{2}$	2 37 2 $\frac{1}{2}$	35 42 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 25 $\frac{1}{2}$	80 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
♂ — 28.			Noon.	51 33 $\frac{1}{2}$	16 45 $\frac{1}{2}$	No dip.	80	80 $\frac{1}{2}$			
	13	5	56 $\frac{1}{2}$	1 58 50	41 47 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	79 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
⊙ — 29.	14	53	12	3 45 55 $\frac{1}{2}$	22 32 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 26 $\frac{1}{2}$		81 $\frac{1}{2}$	6	
♂ — 30.	15	28	52	4 21 7 $\frac{1}{2}$	15 13 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	81 $\frac{1}{2}$	82 $\frac{1}{2}$	5	
♂ — 31.	14	38	56	3 30 52 $\frac{1}{2}$	25 20 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
♀ June 1.	14	13	25	3 5 2	30 11 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 24 $\frac{1}{2}$	82	81 $\frac{1}{2}$	5	
♂ — 2.	14	29	53	3 21 12	27 3 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 25 $\frac{1}{2}$	82	81	6	
♀ — 3.	14	17	37	3 8 37	29 22	16 45 $\frac{1}{2}$	208 25 $\frac{1}{2}$	83	81 $\frac{1}{2}$	5	
♂ — 4.	14	19	27	3 8 54 $\frac{1}{2}$	29 16 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 8 $\frac{1}{2}$		81 $\frac{1}{2}$	6	Bolabola N. 3° $\frac{1}{2}$ E. West End of Otahe N. 58° E.
	8	12	3	20 58 30 $\frac{1}{2}$	30 34 $\frac{1}{2}$	16 44 $\frac{1}{2}$	207 27 $\frac{1}{2}$	81 $\frac{1}{2}$	82 $\frac{1}{2}$	10	
⊙ — 5.			Noon.	50 29 $\frac{1}{2}$	16 48			81 $\frac{1}{2}$	82 $\frac{1}{2}$		
	14	27	2	3 12 16	28 31	16 47 $\frac{1}{2}$	207 23 $\frac{1}{2}$	82	83	5	
	7	17	54	19 59 52	19 4 $\frac{1}{2}$	16 54 $\frac{1}{2}$	206 25 $\frac{1}{2}$	82	81 $\frac{1}{2}$	6	Very hazy.
♂ — 6.			Noon.	50 21	16 49 $\frac{1}{2}$			82 $\frac{1}{2}$	82 $\frac{1}{2}$		Hazy, & bad horizon.
♂ — 7.	14	7	1 $\frac{1}{2}$	2 41 32	33 37 $\frac{1}{2}$	17 14 $\frac{1}{2}$	204 40 $\frac{1}{2}$	80 $\frac{1}{2}$	80	2	Very cloudy.
	8	2	28 $\frac{1}{2}$	20 34 56	25 30 $\frac{1}{2}$	17 31 $\frac{1}{2}$	204 14 $\frac{1}{2}$	80	79 $\frac{1}{2}$	6	
♀ — 8.			Noon.	49 26 $\frac{1}{2}$	17 32 $\frac{1}{2}$			81	80 $\frac{1}{2}$		
	15	22	51 $\frac{1}{2}$	3 54 28	19 45 $\frac{1}{2}$	17 33	204 3 $\frac{1}{2}$	82	82	4	
	6	52	23	19 21 57 $\frac{1}{2}$	10 48 $\frac{1}{2}$	17 37 $\frac{1}{2}$	203 37	83	79	6	
♂ — 9.			Noon.	49 16	17 38 $\frac{1}{2}$			81 $\frac{1}{2}$	81		
	16	3	13	4 31 32	12 7	17 39 $\frac{1}{2}$	203 19 $\frac{1}{2}$	82	81	5	
	8	53	46	21 19 38 $\frac{1}{2}$	33 17	17 47 $\frac{1}{2}$	202 47 $\frac{1}{2}$	79	76 $\frac{1}{2}$	6	
♀ — 10.			Noon.	49 1 $\frac{1}{2}$	17 48			78 $\frac{1}{2}$	77 $\frac{1}{2}$		Very cloudy.
	16	20	13	4 45 54	9 17 $\frac{1}{2}$	17 49 $\frac{1}{2}$	202 45 $\frac{1}{2}$	78 $\frac{1}{2}$	77 $\frac{1}{2}$	6	Ditto.
	7	13	17	19 37 25	13 47 $\frac{1}{2}$	17 51	202 26 $\frac{1}{2}$	78 $\frac{1}{2}$	77	6	
♂ — 11.			Noon.	48 48 $\frac{1}{2}$	17 55 $\frac{1}{2}$			78	77 $\frac{1}{2}$		
	15	43	10	4 4 40	17 21 $\frac{1}{2}$	18 0 $\frac{1}{2}$	201 49 $\frac{1}{2}$	77 $\frac{1}{2}$	77	6	
⊙ — 12.			Noon.	48 31	18 10 $\frac{1}{2}$			75 $\frac{1}{2}$	75		
	9	31	50	21 40 37 $\frac{1}{2}$	35 48	18 46	198 49	76 $\frac{1}{2}$	78 $\frac{1}{2}$	3	
♂ — 13.			Noon.	47 51	18 45 $\frac{1}{2}$			77 $\frac{1}{2}$	80		
	15	41	33	3 47 42	20 12 $\frac{1}{2}$	18 46 $\frac{1}{2}$	198 11	78	77 $\frac{1}{2}$	3	Cloudy.
	15	46	1	3 51 48	19 24 $\frac{1}{2}$	18 46 $\frac{1}{2}$	198 5 $\frac{1}{2}$	78	77 $\frac{1}{2}$	6	Ditto.
	15	57	57	4 4 1	17 0 $\frac{1}{2}$	18 46 $\frac{1}{2}$	198 7 $\frac{1}{2}$	78	77 $\frac{1}{2}$	6	Ditto.
	7	18	46	19 21 16 $\frac{1}{2}$	10 1	18 40 $\frac{1}{2}$	197 17 $\frac{1}{2}$	76	75 $\frac{1}{2}$	6	
♂ — 14.			Noon.	47 57 $\frac{1}{2}$	18 35 $\frac{1}{2}$			76	75 $\frac{1}{2}$		
	16	6	29	4 7 45	16 20 $\frac{1}{2}$	18 34 $\frac{1}{2}$	197 4 $\frac{1}{2}$	77 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
	7	11	9	19 12 12	8 10 $\frac{1}{2}$	18 32	197 3 $\frac{1}{2}$	76 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
♀ — 15.			Noon.	48 2 $\frac{1}{2}$	18 27 $\frac{1}{2}$			77	75 $\frac{1}{2}$		
	16	8	51 $\frac{1}{2}$	4 9 4	16 8 $\frac{1}{2}$	18 25 $\frac{1}{2}$	196 54 $\frac{1}{2}$	76 $\frac{1}{2}$	75 $\frac{1}{2}$	5	
	8	3	33	20 1 46 $\frac{1}{2}$	18 19 $\frac{1}{2}$	18 20 $\frac{1}{2}$	196 28 $\frac{1}{2}$	76 $\frac{1}{2}$	74 $\frac{1}{2}$	6	
♂ — 16.			Noon.	48 16 $\frac{1}{2}$	18 11 $\frac{1}{2}$			75 $\frac{1}{2}$	75 $\frac{1}{2}$		
	15	56	7	3 54 58	19 9 $\frac{1}{2}$	17 59 $\frac{1}{2}$	196 40 $\frac{1}{2}$	76	75 $\frac{1}{2}$	3	
	7	28	59	19 23 20	10 43 $\frac{1}{2}$	18 0 $\frac{1}{2}$	195 36 $\frac{1}{2}$	79	73 $\frac{1}{2}$	6	
♀ — 17.			Noon.	48 22 $\frac{1}{2}$	18 2 $\frac{1}{2}$			75	75		

1774	Time by Watch K		Apparent Time	Altitude of the ☉ = L L	Latitude S	Longitude East by K	Thermom		Baromet	Remarks		
	H	M					A	B				
June 17	15	14	50	3 7 14	28 7½	18 5	195 9	75½	74½	6		
	15	25	51	3 18 0	26 8½	18 5	195 5½	75½	74½	6		
	7	33	58½	19 21 44	10 13½	18 16	194 3½	74	73½	6		
18	7	50	4	19 31 30	12 11½	18 22½	192 35½	75	74	5		
19			Noon		47 57½	18 24½		75½	74			
	16	23	46	4 2 57	17 15½	18 27½	192 4	76½	76	7		
	9	54	18	21 28 29½	33 43½	18 45	190 52½	76	76½	6		
20			Noon		47 32	18 49½		77	77			
	17	5	49	4 37 52	9 56½	18 59	190 22½	76½	76½	10		
	8	17	24	19 48 13	15 16½	18 55	190 8½	75½	76	5		
	9	7	35	20 38 11	24 52½	18 54½	190 5½	71	78½	8		
	11	7	30	22 37 28	42 53½	18 55½	189 55½	78	78	6		
21			Ramsden's Q	} Noon {	47 24½	18 56½		78	78		Off Savage Island	
			Dollond's Q		47 24½	18 57½						
	14	47	31	2 17 17	35 43½	19 1½	189 54½			6		
	16	5	4	3 34 48	22 24½	19 2	189 54	79½	78	6		
	8	14	28	19 41 49½	13 46	19 20	189 22½	77	76	6		
22			Noon		46 58½	19 23½		78	77½			
	16	41	23	4 7 28	15 51½	19 27½	189 5½	78½	77½	6		
	8	6	50	19 28 43	10 55½	19 43	188 6½	77½	76½	6		
23			Noon		46 32½	19 49½		78	77½			
	16	37	41	3 57 14½	17 33½	19 57½	187 33½	77½	77½	6		
	8	12	43	19 27 13	10 17½	20 24½	186 22	78	76½	6		
24			Noon		45 58	20 24½		79	79			
	17	10	37½	4 22 42½	12 21½	20 19½	185 48½	79½	78½	3		
	8	43	45	19 54 2	15 43½	20 12	185 24½	77	78	5		
	8	43	45		15 43½		ON 46 1'					
25					45 19½	20 20½	Ship's course S by W ½ W 4 miles an hour					
	14	27	3		40 2½		ON 19 W			6		
	14	27	3	1 37 14	40 2½	20 22	185 24½			6		
26			19 41 0	13 3½	20 26½		185 13½	77	76	6		
			Noon		46 2½	20 23½		75½	75			
	16	22	36	3 30 36	22 29½	20 15½	184 58½	75½	78	6		
	8	28	13½	19 36 0	12 10½	20 15	184 59½	75	74½	9		
	8	45	54	19 53 46	15 31½	20 15	185 0½			5		
27			Ramsden's Q	} Noon {	46 12	20 15½		76	74½		At Annamocka, one of the Friendly Islands	
			Dollond's Q		46 13	20 14½						
	14	59	55	2 7 34	36 16½	20 18	184 59½	76	74½	6		
	8	54	49½	20 2 8	17 21½	20 15	184 59			10		
28			Noon		46 15½	20 15	Ramsden's Quadrant					
					46 15½	20 14½	Dollond's Quadrant					
	17	28	14	4 35 26½	9 53½	20 15	184 59½	176½	174½	6		

1774:	Time by Watch K.		Apparent Time.		Altitude of the ☉ L. L.		Latitude S.	Longitude East by K.		Thermom.		No. of Obs.	Remarks.		
	H	"	H	"	°	'	°	'	A.	B.					
♂ June 28.	Captain Cook and Mr. Cooper being both on shore at noon, and not coming off till late, I could not wind up the watch at the usual time; and being engaged in the evening, when they did come on board, making computations, &c. unfortunately forgot it until it was down. I wound it up as soon as I recollected it, set it a going, and soon after made the following observations:														
	6	36	29	19	54	4½	15	49½	20	15	1	75	74½	6	At Annamocka.
	Hence it appears, that the watch was 2 h. 10' 38" slower than before.														
	7	22	17	20	39	5½	12½	31½	20	15	1	75½	75½	6	At Annamocka.
	By these the watch was 2 h. 10' 43" slower than before. The mean of both is 2 h. 10' 41"														
♂ — 29.	Noon. 46 27½ 20 05½ 76 74½														
	14	21	7½	3	38	24	21	9½	20	10	184	55½	76	76½	5
	7	11	57				22	36½	19	59½			75½	75	2
♂ — 30.	Noon. 46 44½ 19 51½ 75½ 75½														
	7	45	51½	20	57	18	27	54½	19	53	183	38½	74½	75	6
♀ July 1.	Noon. 46 46 19 54½ 74 75														
	14	58	38	4	8	2½	15	38½	19	57	183	9½	73½	73½	6
	7	23	51½	20	28	29½	22	38½	20	0½	182	2½	75	72	6
	7	29	28	20	33	56	23	38½	20	0½	181	59½	75	72	10
♂ — 2.	Noon. 46 41 20 3½ 72 72														
	16	2	54				4	8½	20	0			72	72½	5
	6	54	19	19	56	58	16	45	19	45	181	34½	73½	72	6
	7	1	39	20	4	2	18	9½	19	45	181	34½	73½	72	6
♂ — 3.	Noon. 47 1½ 19 47 73½ 74														
	15	11	39	4	13	30½	14	40½	19	48	181	28½	74	72½	6
	6	48	10½	19	48	38	15	3	19	58½	181	11	74	74½	6
	7	11	2	20	11	23	19	29½	19	58½	181	9½	75½	75½	6
	7	16	50	20	16	56	20	35½	19	58½	181	5½	75½	75½	6
	8	31	36	21	31	32	33	40½	20	0	181	3½	76	75½	6
♂ — 4.	Noon. 46 48½ 20 4½ 76 75½														
	15	12	26½	4	11	27	14	57	20	9	180	51½	75½	76½	6
	6	38	58½	19	35	6	12	4½	20	34½	180	11½	78	75	6
	6	46	46	19	42	49	13	36½	20	34½	180	10½	78	75	6
♂ — 5.	Noon. 46 20½ 20 38½ 76 75½														
	8	48	25	21	38	51	34	15	20	53	178	52½	76	76	6
♂ — 6.	Noon. 46 9 20 55½ 76 76½														
	15	53	44	4	42	12	8	28½	20	55½	178	24½	76	76½	6
	7	12	5	19	59	15	16	45½	20	53½	178	8½	76	75	8
♂ — 7.	Noon. 46 20½ 20 50½ 76½ 77														
	15	22	42	4	7	12	15	35½	20	48½	177	30½	77½	77½	6
	6	58	35	19	41	50	13	26½	20	47½	177	15½	76	75	6
♀ — 8.	Noon. 46 35½ 20 41½ 77½ 78														
	6	52	6	19	29	16	11	12½	20	20	175	49½	78	77	
♂ — 9.	Noon. 47 0½ 20 23½ 78 78														
♂ — 10.	Noon. 47 38½ 19 53½ 74½ 74½														
	14	47	27½	3	20	3½	25	24½	19	43	174	47½	74½	74	6
	Cloudy, and bad horizon.														

1774	Time by Watch K		Apparent Time		Altitude of the ☉		Latitude South		Longitude East by K		Therm		Remarks
	H	M	H	M	°	'	°	'	°	'	A	B	
O July 10.	6	59	41	19	31	36	12	32	18	49	174	40	Cloudy
P — 11				Noon	49	13	18	26			73	73	
	15	28	9	3	57	49	19	10	18	9	74	74	6
8 — 12	7	3	3	19	31	28	18	8	17	38	75	75	
				Noon	50	27	17	20			75	74	7
	15	46	43	4	12	57	16	38	17	7	76	76	
	7	2	8	19	27	1	12	45	16	36	76	75	6 Cloudy
8 — 13	15	28	8	3	51	26	21	31	16	18	75	75	
	6	52	29	19	13	36	10	18	15	49	172	42	6
4 — 14				Noon	52	25	15	39			75	76	
	15	15	43	3	35	3	25	19	15	32	77	78	6
	7	12	21	19	29	8	13	57	15	13	78	77	
8 — 15				Noon	53	4	15	9			77	76	6
	15	21	13	3	34	53	25	37	15	9	78	79	
	15	26	55	3	40	30	24	29	15	9	80	79	6
	9	25	43	21	33	24	38	33	15	5	78	79	
6 — 16				Noon	53	18	15	5			78	79	3
O — 17	11	6	52		51	32	15	3			78	79	
P — 18	12	16	28		53	25	15	3			78	76	8
	14	42	10		35	54	15	2			78	76	
	14	42	10	2	42	27	35	54	15	14	167	20	8
8 — 19	15	56	27	3	56	52	21	17	15	19	167	22	
				Noon	53	41	15	12			78	76	5 Cloudy
	15	58	45	3	59	49	20	47	15	17	167	36	
	16	1	48	4	2	53	20	7	15	17	167	36	3
8 — 20				Noon	53	36	15	28			77	76	
	16	35	35	4	36	32	53	36	15	29	74	75	7
	7	51	33	19	52	19	12	54	15	39	75	75	
4 — 21				Noon	52	59	16	17			75	74	6
	9	41	31	21	40	54	52	58	16	17	76	77	
8 — 22				Noon	39	38	16	25	167	21	74	74	6
	8	8	13	20	7	24	53	3	16	25	76	76	
6 — 23				Noon	53	15	16	25	167	21	77	77	6
	16	5	12	4	4	44	19	34	16	21	79	80	
O — 24	8	4	17	20	6	1	21	35	17	6	79	78	6
	9	38	49	21	40	9	39	23	17	11	78	77	
P — 25				Noon	52	47	17	18			78	77	6
	16	8	52	4	10	18	18	6	17	23	79	80	
											80	79	5

☉ N by 1 1/2° at 11
 Obs and N 75 W
 2d ship's course 5 1/2
 W 5 1/2 miles an hour

Ramsden's Quad
 Dollond's Quad

N 8 points of Ambrin N 8 1/2
 8 points of White n N 57 1/2

Ramsden's Quad
 Dollond's Quad

In Sandwich's Har-
 bour, in Mallico
 la.

Off Sandwich's Harbour

8 points of Ambrin N 8 1/2
 8 points of White n N 57 1/2

Monument 8 15 W
 Three-hills Well

Three hills N 50° W
 Shepherd's Isles N 30 E

Monument N 6 E
 Montagu Isle S 61° W

E end of Montagu S 69 W
 Monument N 11 W

1774.	Time by Watch K.		Apparent Time.	Altitude of the \odot or \star L.	Latitude S.	Longitude East by K.	Thermom.		No of Obs.	Remarks.	
	H	M					A.	B.			
d July 25.	7	29 21 $\frac{1}{2}$	19 29 44	13 57 $\frac{1}{2}$	17 21 $\frac{1}{2}$	167 49 $\frac{1}{2}$	79	78 $\frac{1}{2}$	6	Alignment N. 48° E. E. point of Montagu S. 49° E.	
d — 26.	11	43 41		52 36 $\frac{1}{2}$	17 30 $\frac{1}{2}$	Ship's course E. $\frac{1}{2}$ S. 1 $\frac{1}{2}$ miles an h. \odot N. 47° $\frac{1}{2}$ W. at 2 dobf.				3	Between Hinch- ingbroke and Mon- tagu Islands.
	13	51 12		43 37						5	
	16	28 52	4 30 20	13 53 $\frac{1}{2}$	17 33	168 6 $\frac{1}{2}$	80	81	6	Sandwich Island from S. 36° W. to S. 23° E.	
	7	38 41	19 41 48 $\frac{1}{2}$	16 22 $\frac{3}{4}$	17 52 $\frac{3}{4}$	168 33 $\frac{1}{2}$	74 $\frac{1}{2}$	74	6	S. end of Sandwich S. 80° W. Traitor's Head S. 24° E.	
d — 27.			Noon.	52 31	18 0 $\frac{1}{2}$		74	73 $\frac{1}{2}$		Erramanga from S. to S. 17° E.	
	16	13 55	4 18 13 $\frac{1}{2}$	16 17 $\frac{1}{2}$	18 9 $\frac{1}{2}$	168 52 $\frac{1}{2}$	74 $\frac{1}{2}$	74 $\frac{3}{4}$	6	Erramanga S. 1° E. to S. 20° W.	
	8	22 20	20 47 44	25 38 $\frac{1}{2}$	18 25 $\frac{1}{2}$	169 10 $\frac{1}{2}$	72	72 $\frac{1}{2}$	6	Erramanga from S. 26° W. to S. 61° W.	
d — 28.			Noon.	52 20 $\frac{1}{2}$	18 24 $\frac{1}{2}$		71 $\frac{1}{2}$	71 $\frac{1}{2}$		Traitor's Head S. 38° W.	
	16	31 16	4 36 28	12 24 $\frac{1}{2}$	18 24	169 8 $\frac{1}{2}$	73	75	6	Traitor's Head S. 29° W.	
	7	37 38	19 43 29	16 40	18 27	169 20	72	70 $\frac{1}{2}$	8	Traitor's Head S. 51° W.	
7	45 28	19 51 20	18 19	18 27	169 20 $\frac{1}{2}$	72	70 $\frac{1}{2}$	8			
d — 29.			Noon.	52 29	18 30 $\frac{1}{2}$		73	74		Traitor's Head S. 61° W.	
	16	28 23	4 33 52	13 0	18 34 $\frac{1}{2}$	169 15 $\frac{1}{2}$	73	72 $\frac{1}{2}$	6	Traitor's Head S. 56° W.	
	8	53 6 $\frac{1}{2}$	20 57 22	13 36	18 32 $\frac{1}{2}$	168 58 $\frac{1}{2}$	71 $\frac{1}{2}$	70 $\frac{3}{4}$	3	Traitor's Head S. 41° W.	
d — 30.			Noon.	52 40 $\frac{1}{2}$	18 33 $\frac{1}{2}$		72 $\frac{1}{2}$	72 $\frac{1}{2}$			
	16	27 19 $\frac{1}{2}$	4 32 0 $\frac{1}{2}$	13 31 $\frac{1}{2}$	18 30	169 5 $\frac{1}{2}$	75	76 $\frac{1}{2}$	6	Traitor's Head S.	
	7	40 48	19 44 38	17 10 $\frac{1}{2}$	18 23	168 54 $\frac{1}{2}$	74	73 $\frac{1}{2}$	6		12° W. distant about 7 leagues.
7	46 45	19 50 41 $\frac{1}{2}$	18 26 $\frac{1}{2}$	18 23	168 56 $\frac{1}{2}$	74	73 $\frac{1}{2}$	3			
	7	59 22	20 3 10 $\frac{1}{2}$	21 1 $\frac{1}{2}$	18 23	168 53	74	73 $\frac{1}{2}$	8		
	9	56 20	22 0 20	42 46 $\frac{1}{2}$	18 22	168 54 $\frac{1}{2}$	74	76	6		
d — 31.			Noon.	53 7 $\frac{1}{2}$	18 21		75	81			
	16	46 55	4 50 37 $\frac{1}{2}$	9 40 $\frac{1}{2}$	18 24	168 53 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	Erramanga from S. 12° W. to S. 57° E.	
	8	37 10	20 39 48	28 32 $\frac{3}{4}$	18 24 $\frac{1}{2}$	168 38 $\frac{1}{2}$	74	75 $\frac{1}{2}$	8		
	8	42 55	20 45 24	29 39 $\frac{1}{2}$	18 24 $\frac{1}{2}$	168 35 $\frac{1}{2}$	74	75 $\frac{1}{2}$	8		
d Aug. 1.			Noon.	53 10 $\frac{1}{2}$	18 32 $\frac{1}{2}$		74	73 $\frac{1}{2}$			
	16	23 42	4 25 34	14 58 $\frac{1}{2}$	18 46 $\frac{3}{4}$	168 28	75	76 $\frac{1}{2}$	6	Erramanga from N. 8° E. to S. 12° E.	
	8	51 25 $\frac{1}{2}$	20 52 52	31 3	18 45 $\frac{1}{2}$	168 23 $\frac{1}{2}$	75	76	8	Off Traitor's Head.	
8	58 4	20 59 30 $\frac{1}{2}$	32 19 $\frac{1}{2}$	18 45 $\frac{1}{2}$	168 23 $\frac{1}{2}$	75	76	8			
d — 2			Noon.	53 12 $\frac{1}{2}$	18 46 $\frac{1}{2}$		78	78 $\frac{1}{2}$			
	16	47 46	4 49 30	9 58 $\frac{1}{2}$	18 44	168 28	80	78	6	Erramanga from N. 36° E. to S. 12° E.	
	8	42 28	20 45 36 $\frac{1}{2}$	29 52	18 38	168 48	75	73	8	Traitor's Head S. 16° W. and the land from S. 80° W. to S. 11° E.	
	8	51 40	20 54 36 $\frac{1}{2}$	31 36 $\frac{1}{2}$	18 38	168 47 $\frac{1}{2}$	75	73	8		
d — 3			Noon.	53 37 $\frac{1}{2}$	18 36 $\frac{1}{2}$		76 $\frac{1}{2}$	74		Erramanga from S. 71° W. to S. 18° E.	
	15	49 58	3 52 37 $\frac{1}{2}$	22 10 $\frac{1}{2}$	18 41	168 43 $\frac{1}{2}$	78	74 $\frac{1}{2}$	6		

1774	Time by Watch K		Apparent Time		Altitude of the ☉ or L L	Latitude S	Longitude East by K	Thermon		Remarks
	H	M	H	M				A	D	
Aug 3	8	10 35	20 12 55	23 24	18 43	168 40	75	71	6	At anchor in the Bay N of Canton Head
4	8	18 10	20 20 32	24 57	18 43	168 40	75	71	6	
			Noon	53 46	18 43		76	78		
	15	20 4	3 22 58	28 18	18 44	168 48	78	77	6	Inland of Canton Head
	7	7 4	19 10 31	9 57	19 26	168 58	75	73	6	
5	10	10 30		45 4	19 32		73	73	5	Off the entrance of Port Resolution
	11	44 20		53 21			73	74	5	
6	I carried the Watch on shore at Port Resolution, in the island of Funia and noted the times of equal altitudes of the sun by it every day the weather would permit until the 19th (see p 97) From these observations it appeared that the Watch was now gaining 13,938 a day on mean time, and this rate being 5106 different from that which had been allowed, would, it is plain cause a very considerable error in the situation of Aurora and the lands we first fell in with, as the relative situations of the several points had been determined by it To avoid this I computed the situations of the ship every day at noon, from our making Aurora to arriving at this place; and from thence corrected those of the several points of land which had before been settled by the Watch, according to the rate it was now going at and on supposition that the longitude of Port Resolution is 165 58 8, which is what the Watch gave it at its Point Venus rate And I computed the situations of the ship, and all lands seen after leaving Port Resolution on the same suppositions, it is obvious that I had only to determine the absolute error of the Watch at that place, and the true situations of all the other points would follow This error I found to be 0° 42' 57" too little, by a mean of 85 sets of observations of the moon's distance from the sun and stars, each set being the mean of from three to twelve single observations And in order to try whether the Watch had kept pretty near this rate all the time we were among these lands, I compared it with a mean of 32 sets of observations at Port Sandwich, with a mean of 48 sets at Pudyova, or Observatory Isle, where I observed the solar eclipse and with 48 more at Botany Island, and its error at none of these places differed quite 3 from the above. On the 19th, in the morning, we									
20	7	26 10	19 30 58	16 27	19 24	169 32	71	71	6	Iramame S 45 I Iramame N 71 I Iramame S 12 I
21			Noon	58 3	19 33		72	73		
	17	1 28	6 3 35	8 44	19 39	168 52	72		6	
22	7	19 19	19 18 44	14 7	18 38	168 11	70	70	6	Iramame from S 59 I to N 76 I Iramame Head 9 I
			Noon	59 38	18 18		72	75		
	16	2 8	4 0 8	23 31	18 1	167 50	73	74	6	Sandwich Island from N 32 L to N 55 W

ON BOARD THE RESOLUTION.

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1774.	Time by Watch K.		Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	B.		
d Aug. 22.	8	0	58½	19 55 34½	23 7½	16 46	166 58½		6	Mallicola from N. 36°
	8	7	0	20 1 40	24 28½	16 46½	167 1½		6	E. to N. 35° W.
d — 23.			Noon.		61 53½	16 23½		74½ 73½		{ Mallicola from S. 35° E. to N. 43° W.
	7	25	32	19 19 4	15 17½	15 47½	166 43½	76½	4	Cloudy.
	8	53	51½	20 47 42	35 9½	15 40½	166 47½	76½ 78½	6	Off Tiera del Espiritu
d — 24.			Noon.		63 14½	15 23½		77½ 81		Sancto.
	16	49	32	4 43 6	15 17½	15 7½	166 42½	79 80½	6	Cape Quiros N. 50° W.
	9	27	32	21 20 7	42 30½	14 54½	166 28	79½	6	{ Cape Quiros East. C. Cumberland N. 66° W.
d — 25.			Noon.		64 2½	14 55½		79½ 81½		{ Cape Quiros N. 86° E. C. Cumberland N. 52° W.
	14	16	31	2 8 44	48 51½	14 53½	166 22½	81	6	{ Cape Quiros N. 81° E. C. Cumberland N. 52° W.
	7	52	49	19 44 54½	21 39½	15 6½	166 20½	77½ 76½	6	Cape Quiros N. 48°
	7	56	38	19 48 56	22 34½	15 6½	166 23½	77½ 76½	4	W.
d — 26.			Noon.		64 13½	15 5		78½ 80½		{ In the bottom of the Bay of Philip & James.
	16	32	54	4 25 2	19 23½	15 10	166 20½	81	6	Cape Quiros S. 68°½ E.
	7	25	12	19 16 52	15 24½	14 45	166 12½	76½ 74½	10	C. Cumberland N. 60° W.
	7	30	3	19 21 44	16 32½	14 45	166 12½	76½ 74½	4	{ C. Quiros S. 68°½ E. C. Cumberland S. 88° W.
d — 27.			Noon.		65 0½	14 39½		77½		{ Ditto S. 36° W.
	15	8	22	2 59 38½	38 54½	14 37	166 6½	78 79½	6	Ditto N. 40° E.
	7	43	11	19 33 31½	19 22½	14 47½	165 52½	77½ 78½	6	{ Ditto N. 40° E.
	7	49	39	19 39 58½	20 52	14 47½	165 52	77½ 78½	6	{ Ditto, N. 26° E.
o — 28.			Noon.		65 10½	14 50½		78½ 78½		{ Ditto, N. 26° E.
	17	3	32	4 54 13½	12 58½	14 48½	165 58½	80 82½	6	{ Ditto, N. 26° E.
	7	50	37	19 40 45½	21 7½	14 57½	165 50½	80½ 78	8	{ Ditto, N. 16° E.
	7	56	58½	19 47 14½	22 37½	14 57½	165 50½	80½ 78	8	{ Ditto, N. 19° E.
d — 29.			Noon.		65 23½	14 58½		79½ 80		{ Ditto, N. 19° E.
	7	35	6	19 24 54½	17 27½	15 24½	165 43½	78 78	6	{ Off the West side of
d — 30.			Noon.		65 23½	15 19½		79 79		Quiros' Tiera del
	15	0	51	2 52 14½	40 41½	15 21½	166 6½	78½ 79	6	Elpiritu Sancto.
	17	5	38½	4 56 29½	12 31½	15 23½	165 57½	78½ 79	6	
	7	58	35	19 49 42½	23 12½	15 43½	166 2½	76½ 76	6	
d — 31.			Noon.		65 20½	15 45		77½ 77		{ Cape Lisburne N. 52° E. Bartholomew Isle N. 70° E.
	15	19	59	3 12 15½	36 20½	15 42½	166 18½	79	6	{ Cape Lisburne N. 31° W. Bartholomew Isle N. 79° E.
	9	9	57	20 59 10	38 39½	16 26	165 32½	74½ 75	8	
	9	52	17	21 41 36	47 30½	16 27½	165 33½	74½ 74½	6	
d Sept. 1.			Noon.		64 53½	16 33½		76 75		
	7	13	42	18 59 54½	11 28½	17 46	164 46½	74½ 74½	6	
d — 2.			Noon.		63 42½	18 6½		75½ 76½		
	16	44	29	4 30 6½	18 16½	18 21	164 37	75½ 76	6	
	9	0	26	20 44 20	34 44½	19 0½	164 10½	74½ 71½	5	Very cloudy.

1774	Time by Watch K		Apparent Time	Altitude of the Sun	Latitude S	Longitude East by K	Thermom		No of Obs	Remarks
	H	M					A	U		
1 Sept 3	16	12 13 1/2	3 56 1	25 51 1/2	19 12 1/2	164 8 1/2	74	74	9	
O — 4	7	27 23 1/2	19 10 50	13 46 1/2	19 50	164 2 1/2	73	73	6	
			Noon	62 33 1/2	19 59 1/2		74 1/2	71		
	15	43 48	3 27 14 1/2	32 1 1/2	20 5 1/2	164 2 1/2	74 1/2	74 1/2	4	Cape Colinet S 41° W N Point of Island S 6 W
	8	38 49 1/2		29 48 1/2					10	Very cloudy
D — 5			Noon	62 38 1/2	20 16 1/2					Dollond's Quadrant
				62 39 1/2	20 16		75 1/2	74		Ramden's ditto
See pages 101 to 104 for Observations made on board the ship, at anchor, off Pudyouna										
D — 12	10	26 14 1/2	12 9 48	53 41 1/2	20 2	163 50	75	76 1/2	6	Pudyouna S 21° W
D — 13	15	13 13	2 55 34 1/2	40 40 1/2	19 47	163 31 1/2			8	
	15	20 24 1/2	3 2 49 1/2	39 6 1/2	19 47	163 32 1/2			10	
D — 14			Noon	66 51 1/2	19 28 1/2		75	76 1/2		
	16	26 58	4 8 25	24 44 1/2	19 18	163 16	75 1/2	79	6	
	16	33 6	4 14 29 1/2	23 21 1/2	19 18	163 15	75 1/2	79	3	
	7	13 49	18 55 35	11 52 1/2	19 9 1/2	165 18 1/2	76	71	6	
L — 15			Noon	67 27 1/2	19 15 1/2		78 1/2	80		
	15	20 11	3 2 5 1/2	39 48 1/2	19 18	163 21 1/2	80	83	4	
	15	25 37	3 7 36	38 36 1/2	19 18	163 22 1/2	80	83	7	Off the reefs which lie
	15	30 48	3 12 46	37 27 1/2	19 18	163 22 1/2	80	83	5	N of New Caledonia
	7	25 4	19 7 32	14 45 1/2	19 33	163 28 1/2	77	76	6	
D — 16			Noon	67 31 1/2	19 34 1/2		77 1/2	77 1/2		
	16	31 23	4 14 46	23 31 1/2	19 34	163 41 1/2	78	80	6	
	8	42 3	20 26 53 1/2	33 3 1/2	19 49	164 2 1/2	76 1/2	76 1/2	6	
H — 17			Noon	67 35 1/2	19 53 1/2		77 1/2	77 1/2		
	16	42 1	4 27 8	20 44 1/2	19 59	164 5 1/2	77 1/2	76 1/2	6	
	8	2 37		24 19			76	75 1/2	3	Very cloudy
O — 18			Noon	67 48 1/2	20 4 1/2		77 1/2	79		
D — 19	7	26 3	19 15 35	17 4 1/2	20 25	165 7 1/2	74 1/2	73	6	
	8	39 22 1/2	20 28 46 1/2	33 48 1/2	20 29	165 5	75	75	5	
D — 20			Noon	67 58 1/2	20 41 1/2		74 1/2	73		Off New Caledonia
	15	51 25	3 40 56	31 33 1/2	20 50 1/2	165 6 1/2	74 1/2	73	6	
	7	0 25	18 50 56	11 27 1/2	20 52	165 20 1/2	73 1/2	71	6	
D — 21			Noon	68 7 1/2	20 54 1/2		74	73 1/2		The Point above Cape
	16	12 33	4 3 38	26 33 1/2	20 57 1/2	165 28 1/2	74 1/2	73 1/2	6	Colinet S 80° W
	7	12 39	19 5 32	14 56 1/2	21 12 1/2	165 54 1/2	73 1	71	6	The above Point N 83° W
L — 22			Noon	68 0	21 25 1/2		74 1/2	73 1/2		New Caledonia from
	16	24 13	4 17 55	23 19 1/2	21 37 1/2	166 5 1/2	74	72	6	N 88° W to S 36 1
	7	57 56	19 52 40	25 47 1/2	21 51 1/2	166 20 1/2	72 1/2	71	6	Q Charlotte's Fore
	9	29 59	21 24 44	46 7 1/2	21 51	166 20 1/2			6	and S 28° E
D — 23			Noon	67 55 1/2	21 53 1/2		73 1/2	73		Ditto, S 25° E
										Ditto, S 23° E

1774.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	D.		
2 Sept. 23.	16	3 20 $\frac{1}{2}$	3 58 40	27 47	22 0 $\frac{1}{2}$	166 28 $\frac{1}{2}$	74	73 $\frac{1}{2}$	6	{ Q. Charlotte's Foreland S. 4 $\frac{1}{2}$ ° E. & C. Coronation S. 52° W.
	7	50 25	19 47 0	24 39	21 57 $\frac{1}{2}$	166 46 $\frac{1}{2}$	72 $\frac{1}{2}$	72	6	
5 — 24.			Noon.	68 13	21 59 $\frac{1}{2}$		74 $\frac{1}{2}$	73		{ Q. Charlotte's Foreland S. 26° W.
	14	51 50	2 48 2 $\frac{1}{2}$	43 33 $\frac{1}{2}$	22 4	166 40 $\frac{1}{2}$	73 $\frac{1}{2}$	74	6	
	7	9 56	19 6 7	15 24 $\frac{1}{2}$	22 8	166 38 $\frac{1}{2}$	73	71 $\frac{1}{2}$	5	
10 — 25.			Noon.	68 25 $\frac{1}{2}$	22 10 $\frac{1}{2}$		74 $\frac{1}{2}$	73 $\frac{1}{2}$		{ C. Coronation N. 78° W. & Q. Char. Foreland S. 37° W.
	16	9 38	4 5 38	26 27 $\frac{1}{2}$	22 20	166 34 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
	7	13 53 $\frac{1}{2}$	19 10 18 $\frac{1}{2}$	16 31 $\frac{1}{2}$	22 9 $\frac{1}{2}$	166 40 $\frac{1}{2}$	73	72	3	
13 — 26.			Noon.	68 43 $\frac{1}{2}$	22 16		73 $\frac{1}{2}$	73 $\frac{1}{2}$		{ Isle of Pines S. 13 $\frac{1}{2}$ ° E.
	16	22 57	4 20 32	23 14	22 20 $\frac{1}{2}$	166 57 $\frac{1}{2}$	76	73 $\frac{1}{2}$	6	
	8	59 19 $\frac{1}{2}$	20 57 32	40 48 $\frac{1}{2}$	22 34 $\frac{1}{2}$	167 5 $\frac{1}{2}$	72	69	4	{ Cape Coronation N. 76 $\frac{1}{2}$ ° W. Isle of Pines S. 1° E.
			Noon.	68 50 $\frac{1}{2}$	22 32 $\frac{1}{2}$		70 $\frac{1}{2}$	68 $\frac{1}{2}$		
18 — 27.				29 27 $\frac{1}{2}$	22 32 $\frac{1}{2}$	167 8 $\frac{1}{2}$	71 $\frac{1}{2}$	69	6	{ Isle of Pines S. 53° W.
	15	55 17 $\frac{1}{2}$	3 53 42 $\frac{1}{2}$	29 27 $\frac{1}{2}$	22 32 $\frac{1}{2}$	167 8 $\frac{1}{2}$	71 $\frac{1}{2}$	69	6	
	7	54 1	19 52 28	26 22	22 49 $\frac{1}{2}$	167 7 $\frac{1}{2}$	68 $\frac{1}{2}$	69	6	{ Ditto, S. 48° W.
			Noon.	69 1 $\frac{1}{2}$	22 44 $\frac{1}{2}$		71	71		
21 — 28.				39 57 $\frac{1}{2}$	22 43 $\frac{1}{2}$	166 28 $\frac{1}{2}$	71	69 $\frac{1}{2}$	6	{ Ditto, N. 45° E.
	15	11 18	3 7 9 $\frac{1}{2}$	39 57 $\frac{1}{2}$	22 43 $\frac{1}{2}$	166 28 $\frac{1}{2}$	71	69 $\frac{1}{2}$	6	
	8	5 35		28 44 $\frac{1}{2}$					6	{ Q. Charlotte's Foreland N. 16° W.
	9	6 8		42 16	22 29 $\frac{1}{2}$		71	73	6	
24 — 29.	(Jollond's Qu. Rainfden's Q.)		Noon.	69 42 $\frac{1}{2}$	22 26 $\frac{1}{2}$		72 $\frac{1}{2}$	74		{ At anchor off Botany Island.
				69 42 $\frac{1}{2}$	22 26 $\frac{1}{2}$					
	14	12 32	2 8 40	52 42 $\frac{1}{2}$	22 26 $\frac{1}{2}$	166 31	73 $\frac{1}{2}$	75	6	
	16	22 49	4 18 54 $\frac{1}{2}$	24 31	22 26 $\frac{1}{2}$	166 33 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
28 — 30.			Noon.	69 58 $\frac{1}{2}$	22 34 $\frac{1}{2}$		74 $\frac{1}{2}$	73		
	16	8 17	4 4 56	27 22 $\frac{1}{2}$	22 40	166 37 $\frac{1}{2}$	76	75 $\frac{1}{2}$	6	
	7	55 1 $\frac{1}{2}$	19 53 19	27 3 $\frac{1}{2}$	22 51 $\frac{1}{2}$	167 1 $\frac{1}{2}$	71 $\frac{1}{2}$	69	6	
1 Oct. 1.			Noon.	69 59 $\frac{1}{2}$	22 56 $\frac{1}{2}$		72	70 $\frac{1}{2}$		
	16	6 54	18 53 $\frac{1}{2}$	26 24 $\frac{1}{2}$	23 2 $\frac{1}{2}$	167 56 $\frac{1}{2}$	73 $\frac{1}{2}$	69 $\frac{1}{2}$	6	
	7	12 36	19 16 58	18 52	23 17 $\frac{1}{2}$	168 31 $\frac{1}{2}$	69 $\frac{1}{2}$	66	6	
	7	21 36	19 25 56 $\frac{1}{2}$	20 53 $\frac{1}{2}$	23 17 $\frac{1}{2}$	168 31	69 $\frac{1}{2}$	66	6	
3 — 2.			Noon.	70 0	23 19 $\frac{1}{2}$		69 $\frac{1}{2}$	66 $\frac{1}{2}$		
	16	7 25	4 13 34 $\frac{1}{2}$	25 37 $\frac{1}{2}$	23 19 $\frac{1}{2}$	168 58	71	69 $\frac{1}{2}$	6	
	9	53 38	22 1 0	54 49 $\frac{1}{2}$	23 55 $\frac{1}{2}$	169 15 $\frac{1}{2}$	69	67 $\frac{1}{2}$	6	
6 — 3.			Noon.	70 38 $\frac{1}{2}$	24 4 $\frac{1}{2}$		70 $\frac{1}{2}$	68 $\frac{1}{2}$	6	
	15	41 8	3 50 38 $\frac{1}{2}$	30 48 $\frac{1}{2}$	24 19 $\frac{1}{2}$	169 47	70 $\frac{1}{2}$	68 $\frac{1}{2}$	6	
	6	42 32	18 54 2	13 52 $\frac{1}{2}$	25 1 $\frac{1}{2}$	170 16 $\frac{1}{2}$	68	66	6	
9 — 4.			Noon.	68 37 $\frac{1}{2}$	25 28		68 $\frac{1}{2}$	69 $\frac{1}{2}$		
	15	50 59	4 4 10	27 36 $\frac{1}{2}$	25 42 $\frac{1}{2}$	170 41	69	69	5	
	6	43 55	18 57 24	14 44 $\frac{1}{2}$	26 33 $\frac{1}{2}$	170 44 $\frac{1}{2}$	66	64 $\frac{1}{2}$	6	
12 — 5.			Noon.	67 36 $\frac{1}{2}$	26 53		67 $\frac{1}{2}$	64 $\frac{1}{2}$		
	15	49 49	4 3 48	27 44 $\frac{1}{2}$	27 13	170 52 $\frac{1}{2}$	68 $\frac{1}{2}$	65 $\frac{1}{2}$	6	
	6	50 26	19 4 50 $\frac{1}{2}$	16 30	27 53	170 58 $\frac{1}{2}$	65	62	6	
14 — 6.			Noon.	67 0 $\frac{1}{2}$	27 52		66 $\frac{1}{2}$	65		

1774	Time by Watch K	Apparent Time	Altitude of the Sun L	Latitude S	Longitude East of K	Barometer		No. of Obs.	Remarks
	H	H				A	B		
4 Oct 6	16 0 34	4 15 0	25 22 $\frac{1}{2}$	27 52	170 58	69	68 $\frac{1}{2}$	6	
	6 47 57 $\frac{1}{2}$	19 2 5 $\frac{1}{2}$	16 6 $\frac{1}{2}$	27 52 $\frac{1}{2}$	170 52 $\frac{1}{2}$	66	63	6	
8 — 7		Noon	67 23	27 52 $\frac{1}{2}$		70	71		
10 — 8	7 2 13 $\frac{1}{2}$	19 12 45 $\frac{1}{2}$	18 34 $\frac{1}{2}$	28 17	170 1 $\frac{1}{2}$	66	64 $\frac{1}{2}$	5	
		Noon	67 13 $\frac{1}{2}$	28 24 $\frac{1}{2}$		68	65 $\frac{1}{2}$		
	16 2 55	4 11 34 $\frac{1}{2}$	26 24	28 32 $\frac{1}{2}$	169 30	69 $\frac{1}{2}$	64 $\frac{1}{2}$	6	
	8 50 19	20 56 10 $\frac{1}{2}$	40 54 $\frac{1}{2}$	28 51 $\frac{1}{2}$	168 47 $\frac{1}{2}$		65	6	
		Noon	67 6 $\frac{1}{2}$	28 54 $\frac{1}{2}$		68	64 $\frac{1}{2}$		
	14 42 50	2 47 5	44 22 $\frac{1}{2}$	28 55	168 23 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6	
	14 49 26	2 53 41	42 55 $\frac{1}{2}$	28 55	168 25 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6	
	15 16 15 $\frac{1}{2}$	3 20 31	37 27	28 55	168 23 $\frac{1}{2}$	69	62 $\frac{1}{2}$	6	
	16 49 28 $\frac{1}{2}$	4 53 12	17 26 $\frac{1}{2}$	28 56	168 15 $\frac{1}{2}$	69	62 $\frac{1}{2}$	5	
	6 52 59	18 53 13	14 38	28 53	167 22 $\frac{1}{2}$	65 $\frac{1}{2}$	61 $\frac{1}{2}$	6	Norfolk Island S 52° E
	9 46 24	21 46 48	51 16 $\frac{1}{2}$	28 54 $\frac{1}{2}$	167 25 $\frac{1}{2}$	66	62	6	Ditto, S 17° W
11 — 10	Dollond & Co Ramfden & Co	Noon	67 26 $\frac{1}{2}$	28 58		66 $\frac{1}{2}$	63 $\frac{1}{2}$		Ditto, S 12° L
	16 30 18	4 30 28	22 36 $\frac{1}{2}$	29 0	167 21 $\frac{1}{2}$			8	
	16 44 25	4 44 38 $\frac{1}{2}$	19 31 $\frac{1}{2}$	29 0	167 21 $\frac{1}{2}$			5	Ditto, S 11° W
	7 18 8	19 18 46 $\frac{1}{2}$	20 23	29 5 $\frac{1}{2}$	167 28 $\frac{1}{2}$	65 $\frac{1}{2}$	65	6	Ditto, N. 64° W
		Noon	67 26	29 21 $\frac{1}{2}$		69 $\frac{1}{2}$	66 $\frac{1}{2}$		Ditto, N 4° W
	14 51 34	2 51 4	43 48 $\frac{1}{2}$	29 29	167 11 $\frac{1}{2}$	69 $\frac{1}{2}$	64 $\frac{1}{2}$	6	
	14 59 2	2 58 42	42 14 $\frac{1}{2}$	29 29	167 14 $\frac{1}{2}$	69 $\frac{1}{2}$	64 $\frac{1}{2}$	8	
	7 5 46	19 4 22 $\frac{1}{2}$	17 23 $\frac{1}{2}$	30 35 $\frac{1}{2}$	166 57 $\frac{1}{2}$	66	63 $\frac{1}{2}$	6	
12 — 12		Noon	66 8 $\frac{1}{2}$	31 1 $\frac{1}{2}$		69 $\frac{1}{2}$	66 $\frac{1}{2}$		
	15 25 54	3 24 58	36 26 $\frac{1}{2}$	31 17 $\frac{1}{2}$	167 4 $\frac{1}{2}$	70 $\frac{1}{2}$	65 $\frac{1}{2}$	8	
	16 55 55	4 55 4	17 38 $\frac{1}{2}$	31 25 $\frac{1}{2}$	167 5 $\frac{1}{2}$	70 $\frac{1}{2}$	65	5	
	7 18 51	19 19 11	20 36 $\frac{1}{2}$	32 39 $\frac{1}{2}$	167 23	65 $\frac{1}{2}$	62	6	
13 — 13		Noon	64 37 $\frac{1}{2}$	32 54 $\frac{1}{2}$		68 $\frac{1}{2}$	65 $\frac{1}{2}$		
	15 46 15	3 48 2	31 34	33 4 $\frac{1}{2}$	167 45 $\frac{1}{2}$	70	63	6	
	15 52 37	3 54 36	30 14 $\frac{1}{2}$	33 4 $\frac{1}{2}$	167 48 $\frac{1}{2}$	70	63	6	
	7 14 18	19 18 32	20 35 $\frac{1}{2}$	33 43	168 22 $\frac{1}{2}$	66	61 $\frac{1}{2}$	6	
14 — 14		Noon	63 52 $\frac{1}{2}$	34 2 $\frac{1}{2}$		67 $\frac{1}{2}$	65 $\frac{1}{2}$		
	16 23 41	4 30 28	22 52 $\frac{1}{2}$	34 20 $\frac{1}{2}$	169 0	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6	
	16 31 26	4 38 14 $\frac{1}{2}$	21 17 $\frac{1}{2}$	34 21	169 0 $\frac{1}{2}$	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6	
	16 36 14	4 43 10	20 16 $\frac{1}{2}$	34 21	169 2 $\frac{1}{2}$	70 $\frac{1}{2}$	62 $\frac{1}{2}$	6	
	6 59 15	19 9 6 $\frac{1}{2}$	18 45 $\frac{1}{2}$	35 8 $\frac{1}{2}$	169 46 $\frac{1}{2}$	65	50	6	
15 — 15		Noon	62 45	35 32		67 $\frac{1}{2}$	65 $\frac{1}{2}$		
16 — 16	7 15 34	19 32 37 $\frac{1}{2}$	23 31 $\frac{1}{2}$	37 9 $\frac{1}{2}$	171 34 $\frac{1}{2}$	64	60 $\frac{1}{2}$	6	
		Noon	61 4 $\frac{1}{2}$	37 34 $\frac{1}{2}$		66 $\frac{1}{2}$	63 $\frac{1}{2}$		
	11 55 41		60 52		ON W at ad obf			6	Very cloudy
	13 10 1		54 42 $\frac{1}{2}$	37 34	Ship's course S E			6	
	6 56 21	19 18 24	20 47	38 57 $\frac{1}{2}$	5 $\frac{1}{2}$ miles an hour			6	
17 — 17	9 37 57	22 0 27 $\frac{1}{2}$	49 38 $\frac{1}{2}$	39 12 $\frac{1}{2}$	172 49 $\frac{1}{2}$	62 $\frac{1}{2}$	58	5	C Egmont S 17° E
		Noon	59 37 $\frac{1}{2}$	39 24	172 57			6	Ditto, S 72° E
						64 $\frac{1}{2}$	59		Ditto, N 33° E

1774.	Time by Watch K.		Apparent Time.		Altitude of the ☉'s L. L.		Latitude South.		Longitude East by K.		Thermom.		No. of Obs.	Remarks.		
	H	"	H	"	°	'	°	'	°	'	A.	B.				
D Oct. 17.	These bearings of Cape Egmont are a little doubtful, as we could not be absolutely certain of the Cape Point, on account of the fog over the land.															
8 — 18.	15	2	5	3	25	26	25	14	39	49	173	9	64½	59½	6	In Cook's Straits.
We got safe moored, the third time, in Queen Charlotte's Sound, New Zealand; and I got my Observatory and Instruments up on the 19th, but, on account of the bad weather, did not get equal altitudes of the Sun before the 22d, on which, and all future days, until November 5th, I compared the Watch with the Clock (see p. 112.). Hence it appeared, that the Watch was then gaining 12".576 a day on mean time, and that it was 12 h. 9' 38".86 too slow for mean time, at Queen Charlotte's Sound, on 5 October 22d, at noon. The Watch therefore places the Sound, this time, 173° 41' 28"½ East of Greenwich; that is, it makes the difference of Longitude between this place and Point Venus, in Otaheite, 36° 43' 42"½. I have here supposed the Watch to go at its Point Venus rate till August 7th, and after that time at its Tanna rate.																
If we allow the rate it went at, when at Greenwich, before the voyage, all the way from England, it will make the Sound 147° 34' 26"½ East of Drake's Island, or 143° 18' 19" East of Greenwich. Lastly, if it be supposed to have gone at the rate it went at when here last time, (viz. gaining 9".091 a day on mean time) it ought to have been too slow for mean time, on 5 November 5th, 1774, by 12 h. 26' 14".2; but as it was only 12 h. 6' 43" too slow at that time, it will appear to have erred from itself 19' 31".2 = 4° 52' 48"½ of longitude in one year all but a day.																
The following longitudes of the ship are computed on supposition that the Watch gains 12".576 a day on mean time, that it was 12 h. 6' 43" too slow for mean time, at Queen Charlotte's Sound, on 5 November 5th, at noon, and that the true longitude of the Sound is 174° 25"½, which is what the mean of all my Observations make it.																
11 Nov. 10.	6	34	57	18	59	12	22	14	42	18	175	10	63	58	5	
8 — 11.				Noon.		64	51½	42	21½				64½	60	6	
	14	18	8½	2	43	13	47	9½	42	22½	175	24	66	62	6	
	14	23	31	2	48	51½	46	12½	42	22½	175	27½	66	62	7	
	15	33	40	3	58	53	33	42½	42	22½	175	26½	67	62½	5	
	6	34	1	18	59	9½	22	26½	42	54½	175	28½	62½	58	6	
6 — 12.				Noon.		64	16½	43	13½				64½	61½	6	
	15	45	3	4	12	42	31	14½	43	27	176	7½	65½	64	6	
	15	50	35	4	18	26½	30	13½	43	27	176	11	65½	64	6	
	6	24	17	18	55	0	21	56½	44	7	176	58	62½	54½	6	
D — 14.	6	28	42	19	13	44	25	40	47	33	180	43	55½	49½	6	
8 — 15.	9	32	41				54	2½	47 49½		Ship's course S. E. by E. 4 miles an hour.		51	5		
	11	53	45				59	12½					52	4		
	17	24	35½	6	13	38	11	21½	48	10	181	45½	58	52	6	
	6	8	12	19	1	28	23	48½	49	12	182	52½	53	47½	6	
8 — 16.				Noon.		58	58½	49	33½				53	50		
	16	58	1½	5	56	4	14	45½	49	58½	184	6½	57½	52	6	

ASTRONOMICAL OBSERVATIONS

1774	Time by Watch K		Apparent Time	Altitude of the ☉ 1 L	Latitude South	Longitude East by K	Therm		No of obs	Remarks
	H	M					A	B.		
4 Nov 17	15 15 6	4 22 34	29 10	51 33	186 33	55	51	6		
2 — 18	5 36 22	18 51 16	22 40	52 31	188 28	50	47	6		
5 — 19		Noon	56 18	52 44		54	50			
7 — 21	6 59 28	21 10 9	55 34	53 41		55	49			
8 — 22		Noon	42 10	55 46	202 37	50	44	6		
	6 54 22	21 11 46	54 7	55 48		52	41		Foggy	
8 — 23		Noon	42 35	55 42	204 41	51	43	6		
	13 20 39	3 39 4	54 26	55 42		52	44			
4 — 24	6 40 34	21 6 34	36 8	55 42	204 58	56	48	5		
		Noon	42 12	55 33	206 56	51	44	6		
2 — 25	6 30 13	21 13 8	54 48	55 32		52	46			
5 — 26		Noon	43 20	55 13	211 18	50	43	6		
7 — 27	12 57 19	3 45 58	55 23	55 9		52	45			
8 — 28		Noon	35 41	55 7	212 46	54	43	6		
4 Dec 1		Noon	55 37	55 6		50	43			
2 — 2	13 17 59	4 49 5	55 52	55 3		51	44			
5 — 3		Noon	27 6	55 2	223 39	2	43	6		
7 — 4	2 2 33		55 54	55 31		54	47			
			21 6	55 12	237 1	50	44	6	Very hazy and a high f	
2 — 5	6 40 18		55 5		ON 13° L at 1st Observat Ships					
5 — 6	8 11 2		56 15	54 53	cour N E 5 miles an hour			5	} Very foggy	
7 — 7		Noon						6		
8 — 8	2 38 17	19 15 28	57 53	54 0		52	47			
9 — 9		Noon	28 38	53 21	241 2	49	40	6		
10 — 10			58 47	53 15		56	41			
	11 20 42	4 2 58	34 51	53 15	242 27	58	41	6		
	2 29 53	19 19 58	29 24	53 9	244 30	50	41	5		
11 — 11	3 50 46	20 42 22	41 29	53 9	244 53	52	41	5		
		Noon	59 2	53 7		56	43			
12 — 12	11 21 24		32 44	53 6	246 12	58	43	6		
		Noon	59 7	53 10		56	43			
	11 58 22		24 55	53 12		60	43	6		
1 — 1	2 13 9	19 32 37	31 19	53 17	252 9	48	43	6		
		Noon	59 17	53 19		52	46			
	10 4 26	3 27 48	40 13	53 20	253 11	60	48	6	Cloudy	
	10 7 59	3 31 33	39 41	53 20	253 14	60	48	2	Very cloudy	
	11 23 37	4 47 34	28 30	53 20	253 20	61	50			
	2 51 11	20 20 57	38 37	53 29	254 54	53	44			
2 — 2		Noon	59 0	53 30		62	47		Ramsden's Quad	
5 — 3		Noon	58 59	53 31					Dollond's	
			59 0	53 37		63	47			
7 — 4	2 8 30	19 45 54	33 37	53 50	258 23	53	44			
8 — 5	10 26 59	4 15 56	33 23	53 46	260 4	59	44		cloudy and a bad horizon	
9 — 6	10 4 23	4 11 26	34 9	53 29	264 46	60	44			
	2 50 50	21 8 17	45 26	53 26	267 29	53	44	5	cloudy	

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	H	°	°	°	A.	B.		
9 Dec. 12.		Noon.	59 28½	53 24½		61½	44½		
	8 43 40	3 5 5½	43 46	53 22½	268 31½	64½	47	8	
	8 52 48½	3 14 32	42 27½	53 22½	268 36½	64½	47	8	
	10 17 12	4 39 14½	30 6½	53 22½	268 41½	68½	46½	6	
	2 17 39	20 43 33½	42 12½	53 23½	269 46	58½	44½	6	
8 — 13.		Noon.	59 33½	53 23½		62½	47		
	9 38 21	4 7 53½	34 47½	53 23½	270 44½	63½	45½	6	
	2 3 21	20 41 58	42 4½	53 25	273 7½	58	44½	6	
8 — 14.		Noon.	59 36½	53 25½		62	46½		
	10 39 1	5 22 4	23 50½	53 26	274 17½	67	45½	5	
	1 37 26	20 27 58½	40 5½	53 29½	276 16½	56	45	6	
14 — 15.		Noon.	59 31½	53 30½		62½	46½		
	10 47 6½	5 44 6	20 41½	53 30½	277 55½	62½	45½	6	
	23 58 41	19 2 42½	27 35½	53 27½	279 48½	52	44	6	
8 — 16.		Noon.	59 41½	53 26½		62	46		
	9 32 4	4 41 41½	29 55½	53 25½	281 16½	62	46½	6	
	1 26 0½	20 43 3	42 19½	53 25	283 14½	62½	45	6	
5 — 17.		Noon.	59 48½	53 21½		62½	47		
	8 47 32	4 8 49½	34 50½	53 17½	284 21½	62½	47	6	
	23 10 54½	18 39 35	24 15½	53 41½	286 18½			6	
	2 57 23		54 35½	☉ N. 17° E.	The Ship's course S. E. 6½ miles an hour. The latitudes dedu- ced were, 54° 13½, and 54° 13½.			5	
☉ — 18.		Noon.	58 58½	54 13½					Cape Gloucester N. 17° E.
	4 41 56		58 53½					5	Cape Noir S. 62° E.
	6 29 57		51 50½	☉ N. 68° W.				5	Cape Noir S. 62° E.
	8 45 30	4 17 18½	13 28½	54 36½	287 9½		50	6	Cape Noir N. 2° W.
	22 13 42	17 50 44	17 37½	55 13½	288 34½	54	45½	5	Cape Desolation N. 4° E.
	0 59 36½	20 38 42½	41 9	55 17½	289 6½	59	46½	6	C. Desolation N. 56° W.
19 — 19		Noon.	57 54	55 20½		64½	50½		Gilbert's Isle N. 62° E.
	8 44 46	4 24 26½	32 23	55 30½	289 18½	65½	48	6	Gilbert's Isle N. true.
	23 25 48	19 7 26½	28 25½	55 38½	289 54½	65½	54	6	York Master N. 17° E.
8 — 20.		Noon.	57 36	55 39½		65½	54		York Minister N. 6° W.
	8 32 21	4 15 2½	33 43½	55 31½	290 15	68	53½	6	
This evening we anchored in Christmas Sound, on the S. W. side of Terra del Fuego, where I found that the watch was gaining 12", 377 a day on mean time, which is so near what it was gaining at New Zealand, that I made no difference in the manner of computing the longitude of the ship by it. It made the longitude of Christmas Sound 290° 19' 41"½ East of Greenwich.									
8 — 28.	9 33 9	5 13 48	25 20½	55 49½	291 5½			8	St. Ildesonso's Isles S. 40° to 50° W.
	0 50 57	20 39 1½	40 50½	55 56½	293 6½	58	49½	7	C. Horn S. 63° W. about 6 miles off.

1774	Time by Watch K	Apparent Time	Altitude of the ☉ L. L.	Latitude South	Longitude East by K	Thermom		No of Obs	Remarks.
	H	H				A	B		
14 Dec. 29		Noon	57 21 $\frac{1}{2}$	55 43 $\frac{1}{2}$		64	52 $\frac{1}{2}$		Barnovell lies 38° W. Brou's lde N 69° W
	8 6 42	3 59 42	35 43 $\frac{1}{2}$	55 28	294 24 $\frac{1}{2}$	64 $\frac{1}{2}$	53	8	
	9 55 57	5 49 52	20 12 $\frac{1}{2}$	55 20	294 38 $\frac{1}{2}$	66	52 $\frac{3}{4}$	6	
	1 6 4	21 1 32	44 9 $\frac{1}{2}$	54 52 $\frac{1}{2}$	295 8 $\frac{1}{2}$	63	54	6	Success Bay N W
2 — 30		Noon	58 8 $\frac{1}{2}$	54 53		65	56 $\frac{1}{2}$		Success Bay S 81° W C Diego N 45° W and C St. Anthony N 45 E.
	9 41 42	5 36 50	21 54 $\frac{1}{2}$	54 55	295 7 $\frac{1}{2}$	65	54	6	C of Good Success S 16° W C. St Diego N 15 W
5 — 31		Noon	58 15	54 42 $\frac{1}{2}$		62	52 $\frac{1}{2}$		
	8 38 17	4 37 2	30 24 $\frac{1}{2}$	54 41	296 9 $\frac{1}{2}$			6	
	9 36 16	5 34 49	22 7 $\frac{1}{2}$	54 41	296 8 $\frac{1}{2}$	63 $\frac{1}{2}$	51 $\frac{1}{2}$	6	At anchor off New
	23 13 33	19 11 25	28 42 $\frac{1}{2}$	54 41	296 4 $\frac{1}{2}$	59 $\frac{1}{2}$	52	6	Year's Island
			58 3	54 48 $\frac{1}{2}$	No dip				In New Year's Har- bour, Staten Land
1775 O Jan. 1		Noon	58 12	54 40 $\frac{1}{2}$	Dip 3 30'				Observed by C Cook on the N E. point of New Year's Island
	0 14 41	20 11 54	37 17 $\frac{1}{2}$	54 41	296 8 $\frac{1}{2}$	59 $\frac{1}{2}$	47	6	
	2 26 7 $\frac{1}{2}$		53 21 $\frac{1}{2}$	54 41		56 $\frac{1}{2}$	47 $\frac{1}{2}$	5	
3 — 2	6 40 36		46 42 $\frac{1}{2}$	54 41		64 $\frac{1}{2}$	49 $\frac{1}{2}$	2	At anchor off New
	6 52 14		45 12 $\frac{1}{2}$			64 $\frac{1}{2}$	49 $\frac{1}{2}$	5	Year's lles
	8 45 16	4 42 13 $\frac{1}{2}$	29 32 $\frac{1}{2}$	54 41	296 6	67 $\frac{1}{2}$	51 $\frac{1}{2}$	6	
	22 22 18	18 20 3	21 13 $\frac{1}{2}$	54 46 $\frac{1}{2}$	296 22 $\frac{1}{2}$	57 $\frac{1}{2}$	49	5	C St Juan S. 54° W distant about 5 miles
	1 9 12 $\frac{1}{2}$	21 6 40	44 32 $\frac{1}{2}$	54 54	296 19 $\frac{1}{2}$			6	C St Bartolomew S 59° W C 8 Juan N
6 — 3		Noon	57 47	54 55 $\frac{1}{2}$		44 $\frac{1}{2}$	52 $\frac{1}{2}$		C St Juan N 2° W
	7 36 55	3 34 24	39 3 $\frac{1}{2}$	54 53	296 22 $\frac{1}{2}$			4	Ditto N 2° W
	22 22 55 $\frac{1}{2}$	18 25 40	22 0 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 47 $\frac{1}{2}$	54 $\frac{1}{2}$	47	6	
8 — 4		Noon	57 4 $\frac{1}{2}$	55 32 $\frac{1}{2}$		60	51		
	22 53 28	19 8 29 $\frac{1}{2}$	27 56	56 47 $\frac{1}{2}$	300 59 $\frac{1}{2}$	50	44	6	
14 — 5		Noon	55 22 $\frac{1}{2}$	57 8 $\frac{1}{2}$		59	47		
	9 11 46	5 33 16	22 19 $\frac{1}{2}$	57 17 $\frac{1}{2}$	302 43 $\frac{1}{2}$	64	46 $\frac{1}{2}$	5	
	0 37 48 $\frac{1}{2}$	21 8 45 $\frac{1}{2}$	43 9 $\frac{1}{2}$	57 47	305 11 $\frac{1}{2}$	55 $\frac{1}{2}$	43	6	
2 — 6	4 1 7 $\frac{1}{2}$		53 59 $\frac{1}{2}$		Ship's course				
	5 45 37 $\frac{1}{2}$		46 27 $\frac{1}{2}$	57 53 $\frac{1}{2}$	E 6 miles an hour			4	
	7 24 34	4 0 10	34 33 $\frac{1}{2}$	58 2	306 26 $\frac{1}{2}$	67 $\frac{1}{2}$	43	8	Cloudy
	10 30 29	19 9 11	27 52 $\frac{1}{2}$	57 20 $\frac{1}{2}$	307 16 $\frac{1}{2}$	47	40 $\frac{1}{2}$	8	Bad horizon
5 — 7		Noon	55 16 $\frac{1}{2}$	57 0 $\frac{1}{2}$		61	40 $\frac{1}{2}$		
	7 50 50	4 28 44	30 53 $\frac{1}{2}$	56 37 $\frac{1}{2}$	307 8 $\frac{1}{2}$	62	43	6	
	23 24 30	20 4 50	35 35 $\frac{1}{2}$	55 14 $\frac{1}{2}$	307 54 $\frac{1}{2}$	51 $\frac{1}{2}$	44	6	
O — 8		Noon	57 0 $\frac{1}{2}$	55 8 $\frac{1}{2}$		61 $\frac{1}{2}$	49		
	7 31 16	4 14 28	32 58 $\frac{1}{2}$	55 4 $\frac{1}{2}$	308 37 $\frac{1}{2}$	67 $\frac{1}{2}$	50 $\frac{1}{2}$	6	
3 — 9		Noon	56 49 $\frac{1}{2}$	55 11 $\frac{1}{2}$		63	43 $\frac{1}{2}$		

1775.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	B.		
3 Jan. 10.			Noon.	57 17½	54 35½		66½	45		Very cloudy.
	21	39	13	23 57½	54 38½	314 34½	51½	42½	6	
4 — 11.			Noon.	57 7½	54 36½			47		
	7	4	18	32 43½	54 35½	315 47½	69	45	6	
14 — 12.			Noon.	57 6½	54 28½		59½	42½		
5 — 14.			Noon.	57 18½	53 56½		61½	37½		
	6	47	5	32 13½	53 57½	320 53½	61½	37½	6	Willis's Isle N. 83° E.
	7	47	29	23 22½	53 57½	320 54	62½	37½	4	
16.			Noon.	56 28½	54 25½		57½	39½		
	6	26	5	34 28½	54 8½	321 59½			6	
	20	57	12	18 32 54	53 58	323 1½	52	35½	6	Pollifion Bay S. 25° E.
3 — 17.			Noon.	56 41½	54 0½		61½	39½		C. Buller N. 85° W. Cape Saunders S. 8° E. and Pollifion Bay S. by E. 3 miles.
	5	53	16½	3 30 38½	54 3½	323 29½	62	39½	6	
	21	6	57	18 47 5½	54 21	324 16½	40½	37½	6	Cooper's Island S. 18° E. Cape Saunders N. 73° W.
18.			Noon.	56 0½	54 30½		62	43		Cooper's Island S. 2° W. Cape George S. 67° W.
	5	59	17	36 32½	54 35	324 34½	66½	41½	6	
	21	46	52	19 28 16	54 42½	324 42½	49½	37½	6	Cooper's Island S. 17° W.
19.			Noon.	55 35½	54 42½		60½	45		Ditto, S. 53° W. Clarke's Island E. S. E. C. Charlotte S. 49° W. A rock off Sandwich Bay S. 80° W.
	6	1	59	3 43 0	54 47½	324 40½	61	42	6	
	20	49	3	18 27 49	55 0½	324 11½	52	39	6	Cooper's Island N. 21° E. C. Disappoint. N. 57° W.
20.			Noon.	55 2½	55 3½		66	43		Pickergill's Island N. 59° W. C. Disappoint. N. 11° W.
	6	38	0	4 18 25	55 10½	324 39	62½	39	6	
	6	56	16	4 41 18	55 15	325 55½	68	40	6	The horizon bad.
25.				52 53½	56 0½	O N. 78° W. at 2d Obs. Ship's course E. by S. 5 miles an hour.				
	5	48	56	34 53½						
	6	28	35	4 18 54½	56 9½	327 43½			4	
	20	39	9	18 35 40	57 8½	329 20	47½	42½	5	
	20	41	40	18 37 55	57 8½	329 16	47½	42½	5	
26.			Noon.	51 4½	57 38½		62	41½		
	20	48	8	18 44 20	59 15	329 21½	49½	39	7	
27.				21 0 24	60 4½	330 29½	60½	35½	5	Foggy.
28.			Noon.	48 7½	60 5½		63	37		Ditto.
	6	57	29½	5 0 0	60 5½	331 5	63½	33½	4	Very cloudy.
29.			Noon.	47 55½	60 1½		64	39		Ditto.
31.			Noon.	48 12½	59 12½		61	37		Thule S. S. W. 7 or 8 leagues off.
	5	2	29	3 11 32	59 6	333 0½	65	39½	6	

1775	Time by Watch K		Apparent Time	Altitude of the Sun L L	Latitude South	Longitude East by K	Thermom.		Barom.	Remarks	
	H	M					A	D			
♂ Jan 31	20	1 52	18 11 14	16 4 $\frac{1}{2}$	58 37 $\frac{1}{2}$	333 8 $\frac{1}{2}$	48 $\frac{1}{2}$	33 $\frac{1}{2}$	5	C Montagu N 45 E	
♀ Feb, 1			Noon	48 42 $\frac{1}{2}$	58 25		64 $\frac{1}{2}$	39		Ditto R & Friedland Peak 8 26 E	
♂ — 2	5	2 40	3 11 53 $\frac{1}{2}$	35 51 $\frac{1}{2}$	58 21 $\frac{1}{2}$	333 8 $\frac{1}{2}$	66	35	4		
♀ — 3	7	49 53	5 59 50	14 10	57 48 $\frac{1}{2}$	333 24 $\frac{1}{2}$	62	37	6		
♂ — 4	21	14 1 $\frac{1}{2}$	19 27 38 $\frac{1}{2}$	49 11 $\frac{1}{2}$	56 44	334 27	61 $\frac{1}{2}$	66	4		
♀ — 5	20	43 7	Noon	25 33 $\frac{1}{2}$	56 44		56	36 $\frac{1}{2}$	4		
♂ — 6	7	14 26	19 1 48	49 32	57 6	335 47 $\frac{1}{2}$	64	38	8	A bad horizon	
♀ — 7	20	23 14	5 38 1	21 46 $\frac{1}{2}$	57 16 $\frac{1}{2}$	337 3 $\frac{1}{2}$	46 $\frac{1}{2}$	36 $\frac{1}{2}$	6		
♂ — 8	22	8 3	19 1 22	16 17	58 21	340 48 $\frac{1}{2}$	57	37	1		
♀ — 9			20 47 46 $\frac{1}{2}$	26 7	58 21 $\frac{1}{2}$	341 12 $\frac{1}{2}$	50 $\frac{1}{2}$	38	6		
♂ — 10			Noon	34 19 $\frac{1}{2}$	58 26 $\frac{1}{2}$		56 $\frac{1}{2}$	37 $\frac{1}{2}$			
♀ — 11	1	33 11		46 51 $\frac{1}{2}$	58 24	ON 58° W at 2d Observation Ship's course E 8 miles in hour				6	
♂ — 12	3	38 57		39 19 $\frac{1}{2}$						6	
♀ — 13	6	50 28 $\frac{1}{2}$	5 39 13	15 42 $\frac{1}{2}$	58 28 $\frac{1}{2}$	343 29 $\frac{1}{2}$	57	35	8		
♂ — 14	20	1 29	18 55 58 $\frac{1}{2}$	20 8 $\frac{1}{2}$	58 29 $\frac{1}{2}$	344 57 $\frac{1}{2}$	45 $\frac{1}{2}$	35 $\frac{1}{2}$	6		
♀ — 15			Noon	46 33 $\frac{1}{2}$	58 29 $\frac{1}{2}$		59 $\frac{1}{2}$	37 $\frac{1}{2}$			
♂ — 16	19	15 0	18 16 56	14 48 $\frac{1}{2}$	58 28	346 52 $\frac{1}{2}$	47 $\frac{1}{2}$	35 $\frac{1}{2}$	3		
♀ — 17	20	31 36	19 33 40	24 44 $\frac{1}{2}$	58 28	346 54 $\frac{1}{2}$	52	35 $\frac{1}{2}$	6		
♂ — 18	5	9 58	4 13 34 $\frac{1}{2}$	46 18 $\frac{1}{2}$	58 26 $\frac{1}{2}$		62 $\frac{1}{2}$	40			
♀ — 19	18	58 57 $\frac{1}{2}$	18 6 52	26 16 $\frac{1}{2}$	58 26 $\frac{1}{2}$	347 19 $\frac{1}{2}$	67	40	6		
♂ — 20			Noon	13 11 $\frac{1}{2}$	58 17	348 25 $\frac{1}{2}$	50	33	6		
♀ — 21	4	59 18	4 15 6	6 10 $\frac{1}{2}$	58 15 $\frac{1}{2}$		60	34 $\frac{1}{2}$			
♂ — 22	22	6 52	21 28 52	25 50 $\frac{1}{2}$	58 16 $\frac{1}{2}$	350 25 $\frac{1}{2}$	61	34	2		
♀ — 23			Noon	37 44 $\frac{1}{2}$	58 7	352 0 $\frac{1}{2}$	61	34	6		
♂ — 24	19	20 3	18 46 38 $\frac{1}{2}$	45 54 $\frac{1}{2}$	58 6 $\frac{1}{2}$		46	36 $\frac{1}{2}$			
♀ — 25			Noon	17 51 $\frac{1}{2}$	58 23	353 12 $\frac{1}{2}$	50 $\frac{1}{2}$	33			
♂ — 26	5	2 8	4 30 26 $\frac{1}{2}$	45 26 $\frac{1}{2}$	58 20 $\frac{1}{2}$		66	37 $\frac{1}{2}$			
♀ — 27	19	19 6	18 51 48	23 19 $\frac{1}{2}$	58 20	353 29 $\frac{1}{2}$	67	35 $\frac{1}{2}$	6		
♂ — 28			Noon	18 15 $\frac{1}{2}$	58 2	354 47			5		
♀ — 29	19	42 35	19 31 10 $\frac{1}{2}$	45 30 $\frac{1}{2}$	57 56 $\frac{1}{2}$		59 $\frac{1}{2}$	33			
♂ — 30			Noon	23 16	57 28 $\frac{1}{2}$	358 48 $\frac{1}{2}$	43	32	6	A great sea.	
♀ — 31	4	24 24	4 19 36	45 43 $\frac{1}{2}$	57 23 $\frac{1}{2}$		52 $\frac{1}{2}$	32 $\frac{1}{2}$			
♂ — 1	19	12 54 $\frac{1}{2}$	19 19 42	24 23 $\frac{1}{2}$	57 20	0 28 $\frac{1}{2}$	54 $\frac{1}{2}$	37	8	An exceeding high sea.	
♀ — 2	19	56 23 $\frac{1}{2}$	20 3 32	21 35 $\frac{1}{2}$	56 47 $\frac{1}{2}$	3 23 $\frac{1}{2}$	43 $\frac{1}{2}$	34 $\frac{1}{2}$	3	Cloudy & a great sea	
♂ — 3			February 14th, to make my day correspond with the day at Greenwich	27 23 $\frac{1}{2}$	56 46 $\frac{1}{2}$	3 29 $\frac{1}{2}$	46	34 $\frac{1}{2}$	6		
♀ — 4			Noon	46 9 $\frac{1}{2}$	56 37 $\frac{1}{2}$		56 $\frac{1}{2}$	35 $\frac{1}{2}$			
♂ — 5	4	20 34	4 33 54 $\frac{1}{2}$	22 26 $\frac{1}{2}$	56 18	5 3 $\frac{1}{2}$	57	35 $\frac{1}{2}$	6		
♀ — 6	20	7 21	20 24 8	30 13 $\frac{1}{2}$	55 30 $\frac{1}{2}$	5 56 $\frac{1}{2}$	50	35 $\frac{1}{2}$	6	A troublesome sea	
♂ — 7			Noon	47 0 $\frac{1}{2}$	55 26 $\frac{1}{2}$		58	36 $\frac{1}{2}$			

1775.	Time by Watch K.		Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom.		No. of Obs.	Remarks.
	H	M	H	°	°	°	A.	B.		
24 Feb. 16.	4 39 55		4 59 54	18 28½	54 24½	6 47½	60	33½	6	
	19 16 40		19 43 4	24 27½	54 21½	8 24½	50	33	6	
2 — 17.			Noon.	47 21½	54 23½		58½	36	6	
	3 44 4		4 15 14½	24 35½	54 25	9 36½	65	36½	6	
5 — 18.			Noon.	47 0½	54 23		61½	34½	6	Very cloudy.
6 — 19.	20 0 22½		20 57 0	33 30½	54 13½	16 3		36½	6	
7 — 20.			Noon.	46 26	54 15½		56	40	6	
	19 33 4		20 39 53½	3 56	54 25½	18 37½	55	36	6	
8 — 21.			Noon.	45 55½	54 24½		61	37	6	Cloudy.
	3 5 38		4 16 5½	23 18½	54 22½	19 32½	64	37	8	Cloudy and bad horizon.
	18 16 19			21 43	55 4	21 36½	47½	35	3	Cloudy.
	18 21 48½		19 40 8	22 24½	55 4	21 31½	47½	35	2	Very cloudy.
	21 11 21			41 36½		Ship's course S. E. ½ E. 5½ miles an hour.		36	5	
	22 26 10			44 44½	55 11			36	2	Very cloudy.
9 — 22.	23 23 19			43 53½					5	
10 — 23.			Noon.	45 10½	54 26½		61½	35½	5	
	18 16 43		19 55 9	24 28½	53 9½	26 35	50	37	4	Ditto.
	19 22 52		21 1 15½	33 23½	53 5½	26 34	52	38	8	Cloudy.
2 — 24.			Noon.	46 23½	52 51½		59½	38½	5	
	17 33 29½		19 20 6½	19 32	50 52½	28 38			5	
3 — 25.			Noon.	48 19	50 33½		54	41	6	
	18 7 45		19 59 43	25 38½	49 37	29 58½	56	40½	6	
	19 45 24		21 37 44	39 24½	49 31½	30 4½	59	42	6	Ditto.
4 — 26.			Noon.	49 9½	49 20½		62½	45½		
5 — 27.			Noon.	50 9½	47 58½		66½	47		
6 — 28.	23 5 20½			47 44½	46 54	☉ N. 31 W. at 2d Observation. Ship's course N. W. 4½ miles an h.			6	Bad horizon.
	0 39 41½			37 0					5	
	2 25 28		4 32 46½	20 25½	46 49	33 46½	63½	43½	6	
7 March 1.	17 27 0½		19 24 33	19 39½	45 54	31 24			8	Very cloudy.
8 — 2.			Noon.	51 27	45 32½		54½	47	6	
	2 11 56		4 8 4	44 24½	45 14	31 2½	54	43	6	
	17 18 13		19 11 28	17 25½	44 8½	30 19½	49	42	6	
9 — 3.			Noon.	52 43½	43 53½		49½	44	6	
	2 27 0		4 19 24	22 35	43 34½	30 6½	52½	44	6	
	17 29 16		19 19 3	18 34½	43 43½	29 27½	53½	51½	10	Very hazy.
10 — 4.			Noon.	52 26½	43 46½		56½	55	3	
	1 45 5		3 32 34	30 16½	43 49½	28 52½	59	57	6	
	1 56 28		3 44 9½	28 21	43 49½	28 55	59	57	6	
	17 33 24½		19 15 46	17 39½	44 5½	27 35½	56½	53	6	
11 — 5.			Noon.	52 1	43 49½		58½	50½	6	
	17 41 3		19 23 29	18 59½	42 44½	27 36½	54	51½	6	
12 — 6.			Noon.	53 3½	42 23½		56½	52½	2	
	1 7 35		2 50 1½	37 29	42 14		59½	54	6	
	17 9 32		18 49 18	12 37½	41 33	26 55½	57½	57	6	

1775	Time by Watch K		Apparent Time	Altitude	Latitude	Perpetual Table by K	D			R
	H	M					A	B	C	
8 March 7			Noon	53 15	11 15		63	61		
	1	29 27	3 7 4	31 2	11 9		61	61		
	17	51 4	19 31 5	20 13	41 31	26 27	61	62		
8 — 8			Noon	5 1	11 17		61	61		
	17	21 59	18 57 51	13 55	12 11	5 41	60	61		
14 — 9			Noon	52 10	42 6		67	64		
	3	0 49	4 32 36	18 51	42 9		57	60		
	18	5 37	19 36 9	20 32	11 10	1 35	58	64		
9 — 10			Noon	52 56	10 56		59	65		
	1	55 25	3 24 41	31 53	10 50	21 16	60	52		
	2	26 6	3 55 21	3 42	10 19	1 15	61	5		
	17	37 31	19 6 32	14 59	10 3	21 12	57	1		
15 — 11			Noon	53 26	10 20		59	67		
	20	37 6	22 8 20	46 4	38 57	1 13	61	61		
16 — 12			Noon	54 15	38 50		61	61		
	1	31 25	3 4 12	31 11	38 41	4	61	63		
	19	39 19	21 4 18	36 11	37 33	1 16	61	61		
17 — 13			Noon	54 14	37 18		61	61		
	1	15 29	3 7 31	31 5	37 5	2 5	73	72		
	19	21 34	20 46 51	3 13	36 38	27 8	7	70		
8 — 14			Noon	55 51	36 7		7	7		
	2	13 22	3 56 15	25 54	36 18	1 55	78	70		
	17	37 38	18 59 56	15 19	35 0	3 19	71	69		
9 — 15			Noon	56 39	31 1		71	72		
	2	55 55	4 18 31	1 40	35 27	23 6	73	69		
	13	50 11	20 1 8	27 33	34 19	2 19	69	67		
11 — 16			Noon	56 14	31 49		71	69		
	2	16 27	3 37 41	19 55	34 19	22 9	71	61		
	17	15 23	19 2 38	13 28	31 56	21 8	70	69		
9 — 17			Noon	56 52	35 2		70	70		
	2	16 6	4 3 21	21 41	35 7	21 10	70	69		
	17	47 16		13 3	37 53	0 12	70	61		
15 — 18			Noon	55 11	31 59		71	70		
	21	37 12	27 46 1	1 31	44 1	20 25	67	65		
16 — 19			Noon	55 29	31 51		67	65		
	1	31 38	2 17 2	1 50	31 57	20 8	67	65		
	19	40 28		13 0	31 18		67	65		
17 — 20			Noon	55 43	34 13		66	66		
8 — 21						18 48	79	76		

Very cloud

Very cloudy

The Table full by N
The Table full N 8 E
In Table Bay

I carried the watch on shore at the Cape of Good Hope, and compared it with the clock every day from the 24th to 30 April 23. (see p 132). Upon these comparisons it appeared that the watch was then gaining 12.204 a day on mean time, that it was too slow for mean time at the Cape on 8 March 1775 at noon by 1 h 14 m 15 s, and gave the longitude of the Cape Town 16 36 40 East of Greenwich, reckoning in the manner which I did in our passage from New Zealand

1775	Time by Watch K		Apparent Time	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom		No. of Obs	Remarks
	H	M	H				A	B		
2 May 5	21	39 55		38 14 ^T	25 8 ^T		69	65 ⁺	6	Very cloudy Cloudy Ditto
5 May 6			Noon	48 15	25 0 ^T	5 5	68 ⁺	66		
	3	44 19		18 38 ^T	24 45 ⁺	4 40 ⁺	68 ⁺	67	3	
19 May 7	19	15 47	19 25 16	11 33 ⁺	23 44 ⁺	3 40 ⁺	66 ⁺	65 ⁺	6	
			Noon	49 31 ^T	23 27 ⁺		68	67 ^T		
	4	39 3	4 45 46 ^T	9 25 ^T	23 11 ^T	3 0 ⁺	68	66 ⁺	5	
19 May 8	19	7 36 ⁺	19 11 2 ^T	8 59 ^T	22 23 ⁺	2 12 ⁺	66 ⁺	65 ⁺	6	
			Noon	50 37 ^T	22 5		67 ⁺	68		
	3	37 3 ⁺	3 37 57 ⁺	23 43 ⁺	21 55	1 35	67	67 ⁺	6	
20 May 9	20	4 17	20 0 56	9 50 ⁺	21 1 ⁺	0 33	68	67 ⁺	4	
			Noon	51 40	20 46 ⁺		68 ⁺	68 ⁺		
	4	9 35	4 3 50 ^T	19 2 ⁺	20 34 ⁺	0 2 ⁺	68 ⁺	67 ⁺	6	
19 May 10	19	27 11	19 18 12	11 16	19 49	0 48 ⁺	68	67 ⁺	6	
			Noon	52 30 ⁺	19 39 ⁺		69 ⁺	69 ⁺		
	21	9 39	20 56 5 ^T	31 29 ⁺	19 3 ⁺	1 55	69 ⁺	70	6	
21 May 11			Noon	53 2	18 52 ⁺		72	70 ⁺		
	3	58 13	3 43 4	23 54 ⁺	18 45 ⁺	2 20 ⁺	72 ⁺	70	6	
19 May 12	19	37 19	19 20 54 ^T	12 9 ^T	18 32 ⁺	2 35	70 ⁺	69 ⁺	6	
			Noon	53 12	18 27 ⁺		72 ⁺	72 ⁺		
	4	33 31 ^T	4 16 16	17 1 ^T	18 22 ⁺	2 46 ⁺	73 ⁺	71	5	
19 May 13	19	39 37	19 20 56	12 19	17 54 ^T	3 6 ⁺	71	70 ⁺	5	
			Noon	53 41 ⁺	17 43		73	74		
	4	23 44	4 3 26 ^T	20 1 ⁺	17 34 ⁺	3 29 ⁺	72 ⁺	72 ⁺	6	
20 May 14	20	10 2	19 47 22 ^T	18 18	16 56 ⁺	4 2 ⁺	70 ⁺	70	6	
			Noon	54 23 ^T	16 46 ^T		73	72 ⁺		
	4	24 31	3 59 53	21 4 ^T	16 39 ⁺	4 31 ⁺	74	72 ⁺	6	
	5	14 27 ^T	4 49 46 ^T	10 22 ⁺	16 37 ⁺	4 31 ⁺	73 ⁺	72 ⁺	6	
19 May 15	19	41 33	19 14 6 ⁺	11 31 ⁺	16 10	4 57 ⁺	72	71	6	
			Noon	54 53 ⁺	16 1 ⁺		73 ⁺	72		
	4	45 2 ^T	4 16 4	17 52 ⁺	15 56 ^T	5 33	73	72 ⁺	6	
22 May 16	22	16 58	21 46 56	41 53 ⁺	15 55 ⁺	5 46 ⁺	73 ⁺	73 ⁺	6	
			Noon	54 45 ⁺	15 55 ⁺		73 ⁺	75 ⁺		
	4	52 33 ^T	4 22 29	16 24 ^T	15 55 ⁺	5 46 ⁺	73 ⁺	73	6	
22 May 17	22	1 29	21 31 16	39 2	15 55 ⁺	5 45 ⁺	72 ⁺	71	5	On board the ship at anchor off James's Fort, St Helena
			Noon	54 32 ⁺	15 55 ⁺		73	73		
	5	5 43	4 35 17 ^T	13 53 ⁺	15 55 ⁺	5 47 ⁺	74	73 ⁺	6	
21 May 18			Noon	54 19	15 55 ⁺		73	72 ⁺		
21 May 21	21	17 25	20 43 53 ^T	29 45 ^T	15 33 ⁺	6 15 ⁺	72 ⁺	70	6	
21 May 22			Noon	54 0 ^T	15 24		70 ⁺	70		
	20	44 55	20 5 30 ^T	22 15 ^T	14 45 ⁺	7 39 ⁺	72 ⁺	72 ⁺	6	Very cloudy Ditto Cloudy Ditto Ditto
	21	45 30	21 5 36	34 19 ^T	14 43	7 46 ⁺	73	73 ⁺	8	
21 May 23			Noon	54 39 ⁺	14 33 ⁺		75	74 ⁺		
	20	7 40 ^T	19 20 33 ^T	13 4 ⁺	13 45	9 31	73 ⁺	72 ⁺	10	
	20	13 46	19 26 47	14 26 ⁺	13 45	9 28 ⁺	73 ⁺	72 ⁺	5	
21 May 24			Noon	55 31	13 30 ⁺		74 ⁺	73		
	20	31 31	19 38 44	17 42 ⁺	12 6 ⁺	10 51 ⁺	75	72 ⁺	10	

1775.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude S.	Longitude West by K.	Thermom.		No. of Obs.	Remarks.
	H	M					A.	B.		
8 May 24.	20	40	25 $\frac{1}{2}$	19 47 46	19 39 $\frac{3}{4}$	12 5 $\frac{3}{4}$	10 49 $\frac{1}{2}$	75 73	6	
14 — 25.			Noon.	57 8	11 42 $\frac{1}{2}$			76 $\frac{3}{4}$ 75		
	5	25	24	4 31 0	15 53	11 21	11 13	76 $\frac{1}{2}$ 75	6	
	20	20	50	19 24 4 $\frac{1}{2}$	15 12 $\frac{3}{4}$	10 19	11 45 $\frac{3}{4}$	75 $\frac{1}{2}$ 75	6	
8 — 26.			Noon.	58 44 $\frac{3}{4}$	9 55 $\frac{1}{2}$			77 $\frac{3}{4}$ 77 $\frac{1}{2}$		
	5	23	10	4 24 52	17 54 $\frac{3}{4}$	9 40 $\frac{1}{2}$	12 7 $\frac{1}{2}$	77 $\frac{3}{4}$ 77 $\frac{1}{2}$	6	
	19	59	51	18 58 44	10 11 $\frac{1}{2}$	8 38	12 46 $\frac{1}{2}$	77 76 $\frac{1}{2}$	6	
5 — 27.			Noon.	60 7 $\frac{1}{2}$	8 22 $\frac{1}{2}$			78 $\frac{1}{2}$ 79		
	5	6	45	4 3 36	23 12 $\frac{1}{2}$	8 11 $\frac{1}{2}$	13 15 $\frac{1}{2}$	78 79	6	
	20	11	21	19 5 54 $\frac{1}{2}$	12 4	7 55	13 46 $\frac{1}{2}$	78 $\frac{1}{2}$ 77 $\frac{1}{2}$	6	
0 — 28.			Noon.	60 20 $\frac{1}{2}$	7 58 $\frac{1}{2}$			78 78 $\frac{1}{2}$		
	6	7	56	4 59 13	11 25 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 33 $\frac{1}{2}$		6	On board the ship at anchor off the N. W. side of Ascension.
	6	10	25	5 1 52	10 18	7 55 $\frac{1}{2}$	14 31 $\frac{1}{2}$	79 $\frac{1}{2}$ 78 $\frac{1}{2}$	6	
3 — 29.			Noon.	60 13 $\frac{1}{2}$	7 56 $\frac{1}{2}$	Dip 3 $\frac{1}{2}$		79 79		On shore.
8 — 30.			Noon.	60 5 $\frac{1}{2}$	7 55 $\frac{1}{2}$			79 80 $\frac{1}{2}$		On board the ship at anchor off the N. W. side of Ascension.
14 — 31.			Noon.	59 56	7 56 $\frac{1}{2}$			79 $\frac{1}{2}$ 82		
	3	39	31	2 29 59 $\frac{1}{2}$	42 27 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 30 $\frac{1}{2}$	79 81 $\frac{1}{2}$	6	
	5	5	43	3 56 2 $\frac{1}{2}$	24 45 $\frac{1}{2}$	7 55 $\frac{1}{2}$	14 32 $\frac{1}{2}$	79 $\frac{1}{2}$ 80 $\frac{1}{2}$	6	
	20	25	44 $\frac{1}{2}$	19 13 26	13 56 $\frac{1}{2}$	7 7	15 8 $\frac{1}{2}$	78 77	6	
14 June 1.			Noon.	60 44 $\frac{1}{2}$	6 59 $\frac{1}{2}$			79 79 $\frac{1}{2}$		
	5	0	24 $\frac{1}{2}$	3 45 18	27 30 $\frac{1}{2}$	6 58	15 48 $\frac{1}{2}$	79 79	6	
	20	22	0	19 2 5 $\frac{1}{2}$	11 30 $\frac{1}{2}$	6 45 $\frac{1}{2}$	16 56 $\frac{1}{2}$	79 $\frac{1}{2}$ 77	5	
8 — 2.			Noon.	60 52 $\frac{1}{2}$	6 43 $\frac{1}{2}$			78 $\frac{1}{2}$ 78 $\frac{1}{2}$		
	5	16	9	3 53 8	25 53 $\frac{3}{4}$	6 41 $\frac{1}{2}$	17 41 $\frac{1}{2}$	78 $\frac{1}{2}$ 78 $\frac{1}{2}$	6	
	20	48	8	19 19 54 $\frac{1}{2}$	15 35 $\frac{1}{2}$	6 29	18 55 $\frac{1}{2}$	78 $\frac{1}{2}$ 76	6	
5 — 3.			Noon.	61 1 $\frac{1}{2}$	6 26 $\frac{1}{2}$			79 78		
	4	22	37	2 50 45 $\frac{1}{2}$	39 0 $\frac{1}{2}$	6 25	19 48 $\frac{1}{2}$	79 78 $\frac{1}{2}$	6	
	20	44	45	19 7 9 $\frac{1}{2}$	12 52 $\frac{1}{2}$	6 4 $\frac{1}{2}$	21 10 $\frac{1}{2}$	79 $\frac{1}{2}$ 77	6	
0 — 4.			Noon.	61 20 $\frac{1}{2}$	6 0 $\frac{1}{2}$			79 79 $\frac{1}{2}$		
	6	39	7	4 57 41 $\frac{1}{2}$	11 40 $\frac{1}{2}$	5 57 $\frac{1}{2}$	22 5 $\frac{1}{2}$	79 79 $\frac{1}{2}$	6	
	20	43	1 $\frac{1}{2}$	18 56 38	10 38 $\frac{1}{2}$	5 43 $\frac{1}{2}$	23 16 $\frac{1}{2}$	79 $\frac{1}{2}$ 78 $\frac{1}{2}$	6	
3 — 5.			Noon.	61 35 $\frac{1}{2}$	5 39			79 $\frac{1}{2}$ 80		
	4	51	35	3 1 42 $\frac{1}{2}$	37 13 $\frac{1}{2}$	5 36 $\frac{1}{2}$	24 6 $\frac{1}{2}$	80 80	6	
	20	51	16	18 55 9 $\frac{1}{2}$	10 29 $\frac{1}{2}$	5 14 $\frac{1}{2}$	25 37 $\frac{1}{2}$	80 $\frac{1}{2}$ 79 $\frac{1}{2}$	6	
8 — 6.			Noon.	61 59 $\frac{1}{2}$	5 8 $\frac{1}{2}$			81 $\frac{1}{2}$ 81 $\frac{1}{2}$		
	6	3	32	4 3 38 $\frac{1}{2}$	24 12 $\frac{1}{2}$	5 4 $\frac{1}{2}$	26 30 $\frac{1}{2}$	80 $\frac{1}{2}$ 80 $\frac{1}{2}$	6	
	21	1	52	18 57 18	11 2 $\frac{1}{2}$	5 1	27 37	80 79 $\frac{1}{2}$	6	
8 — 7.			Noon.	62 4 $\frac{1}{2}$	4 57 $\frac{1}{2}$			80 81		
	6	26	11	4 19 12	20 58 $\frac{1}{2}$	4 48 $\frac{1}{2}$	28 11	80 81	6	
	21	17	38 $\frac{1}{2}$	19 6 2	13 25 $\frac{1}{2}$	3 59	29 16 $\frac{1}{2}$	80 80	6	
14 — 8.			Noon.	63 11 $\frac{1}{2}$	3 44 $\frac{1}{2}$			80 $\frac{1}{2}$ 82 $\frac{1}{2}$		
	5	19	13	3 4 34 $\frac{1}{2}$	37 32 $\frac{1}{2}$	3 45 $\frac{1}{2}$	30 0 $\frac{1}{2}$	81 81 $\frac{1}{2}$	10	
	21	18	36	18 56 50	11 26 $\frac{1}{2}$	3 43 $\frac{1}{2}$	31 43	80 $\frac{1}{2}$ 80 $\frac{1}{2}$	6	
8 — 9.			Noon.	63 8	3 43 $\frac{1}{2}$			82		The Island Ferdinando de Noronha S. W. by W. & W.

1775	Time by Watch K.		Apparent Time	Altitude of the Sun L.	Latitude South	Longitude West by K	Thermom		No of Observers	Remarks	
	H	M					A	D			
June 9	5	9	2	2 43 58	41 38 $\frac{1}{2}$	3 53 $\frac{1}{2}$	32 30 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	7	The Spine Rock on Lard narrical Naruaba S 12 W at out the point
	6	15	57	3 50 32	27 35 $\frac{1}{2}$	3 52	32 34 $\frac{1}{2}$	81 $\frac{1}{2}$	81 $\frac{1}{2}$	6	
b — 10	21	16	45	18 51 52	10 50 $\frac{1}{2}$	2 23	32 23 $\frac{1}{2}$	80	80	6	
			Noon	64 49	1 57			81 $\frac{1}{2}$	82 $\frac{1}{2}$		
	7	9	57	4 45 24	16 19 $\frac{1}{2}$	1 34 $\frac{1}{2}$	32 16 $\frac{1}{2}$	81 $\frac{1}{2}$		6	
o — 11	21	35	5	19 10 30	15 47 $\frac{1}{2}$	0 35 $\frac{1}{2}$	32 12 $\frac{1}{2}$	79 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
			Noon	66 30 $\frac{1}{2}$	0 11 $\frac{1}{2}$		Dip 3 $\frac{1}{2}$	80 $\frac{1}{2}$	81		
					North						
	7	0	12	4 35 47	19 13 $\frac{1}{2}$	0 12 $\frac{1}{2}$	32 7 $\frac{1}{2}$	80 $\frac{1}{2}$	81	6	
b — 12	21	58	45	19 34 58	22 12 $\frac{1}{2}$	1 30 $\frac{1}{2}$	31 54 $\frac{1}{2}$	80 $\frac{1}{2}$	80	6	
			Noon	68 28 $\frac{1}{2}$	1 50 $\frac{1}{2}$		Dip 3 $\frac{1}{2}$	81	81		
	6	32	37	4 8 48	26 9 $\frac{1}{2}$	2 10 $\frac{1}{2}$	31 52 $\frac{1}{2}$	81 $\frac{1}{2}$		6	
a — 13	21	51	50	19 28 30	21 33 $\frac{1}{2}$	3 34 $\frac{1}{2}$	31 41 $\frac{1}{2}$	81	81 $\frac{1}{2}$	6	
			Noon	70 24 $\frac{1}{2}$	3 49 $\frac{1}{2}$			80 $\frac{1}{2}$	81 $\frac{1}{2}$		
u — 14	25	6	45	20 42 50	38 42 $\frac{1}{2}$	4 25 $\frac{1}{2}$	31 43 $\frac{1}{2}$	78 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
	7	8	25	4 44 50 $\frac{1}{2}$	18 55	4 36 $\frac{1}{2}$	31 36 $\frac{1}{2}$	80		6	
u — 15	23	53	13	21 31 41	49 56 $\frac{1}{2}$	5 32 $\frac{1}{2}$	31 1	78	79	4	Very cloudy
e — 16	23	51	54	21 31 45 $\frac{1}{2}$	50 14 $\frac{1}{2}$	6 8	30 33 $\frac{1}{2}$	79	78 $\frac{1}{2}$	6	Ditto
			Noon	72 35 $\frac{1}{2}$	6 9 $\frac{1}{2}$			81 $\frac{1}{2}$			
b — 17	6	21	13	4 1 10 $\frac{1}{2}$	29 32 $\frac{1}{2}$	6 10 $\frac{1}{2}$	30 30 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
			Noon	72 37 $\frac{1}{2}$	6 13			79 $\frac{1}{2}$	79 $\frac{1}{2}$		
o — 18	7	36	12	5 16 34	12 16 $\frac{1}{2}$	6 13	30 17 $\frac{1}{2}$	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
	23	7	43	20 47 18	40 26 $\frac{1}{2}$	6 8	30 25 $\frac{1}{2}$	79 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
			Noon	72 35 $\frac{1}{2}$	6 12 $\frac{1}{2}$			79 $\frac{1}{2}$	78		
	6	21	46	4 0 45 $\frac{1}{2}$	29 31 $\frac{1}{2}$	6 12 $\frac{1}{2}$	30 31 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
b — 19	21	23	40	18 48 32	16 59	7 0	30 27 $\frac{1}{2}$	80 $\frac{1}{2}$	79 $\frac{1}{2}$	6	
			Noon	73 29 $\frac{1}{2}$	7 8 $\frac{1}{2}$			82 $\frac{1}{2}$	82		
	7	1	32	4 39 38	21 6 $\frac{1}{2}$	7 13	30 38 $\frac{1}{2}$	81	79 $\frac{1}{2}$	6	
	21	17	8	18 53 46 $\frac{1}{2}$	15 17 $\frac{1}{2}$	7 54	30 56 $\frac{1}{2}$	80 $\frac{1}{2}$		6	
a — 20	21	32	47	19 9 19	18 51 $\frac{1}{2}$	7 54	30 58 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	7	
			Noon	74 31 $\frac{1}{2}$	8 10 $\frac{1}{2}$			81 $\frac{1}{2}$	81		
	7	2	37	4 36 32	22 16 $\frac{1}{2}$	8 25 $\frac{1}{2}$	31 34 $\frac{1}{2}$	81 $\frac{1}{2}$	80 $\frac{1}{2}$	6	
u — 21	21	25	46	18 55 20	16 8 $\frac{1}{2}$	9 10 $\frac{1}{2}$	32 36 $\frac{1}{2}$	80	79 $\frac{1}{2}$	10	
			Noon	75 49 $\frac{1}{2}$	9 28 $\frac{1}{2}$			81 $\frac{1}{2}$	83		
	6	15	32	3 42 13	35 10 $\frac{1}{2}$	9 42 $\frac{1}{2}$	33 14 $\frac{1}{2}$	80 $\frac{1}{2}$	81	5	
u — 22	21	36	1	19 0 3 $\frac{1}{2}$	17 48 $\frac{1}{2}$	10 49 $\frac{1}{2}$	33 52 $\frac{1}{2}$	79 $\frac{1}{2}$	80	6	
			Noon	77 32 $\frac{1}{2}$	11 12			81	84 $\frac{1}{2}$		
	6	29	48	3 51 28	33 42	11 28 $\frac{1}{2}$	34 25 $\frac{1}{2}$	80	80	6	
e — 23	21	59	46	19 18 4	22 32 $\frac{1}{2}$	12 35 $\frac{1}{2}$	35 11 $\frac{1}{2}$	78	78 $\frac{1}{2}$	6	Very cloudy
			Noon	79 14 $\frac{1}{2}$	12 63 $\frac{1}{2}$			79 $\frac{1}{2}$	80		
	6	50	55	4 7 10 $\frac{1}{2}$	30 40 $\frac{1}{2}$	13 4 $\frac{1}{2}$	35 40 $\frac{1}{2}$	79	80	6	Very cloudy
b — 24	21	28	33	18 42 4	14 56 $\frac{1}{2}$	14 14 $\frac{1}{2}$	36 17 $\frac{1}{2}$	77 $\frac{1}{2}$	76 $\frac{1}{2}$	6	Cloudy.
			Noon	81 0 $\frac{1}{2}$	14 37 $\frac{1}{2}$			78	78 $\frac{1}{2}$		

1775.	Time by Watch K.		Apparent Time.		Altitude of the ☉'s L. L.		Latitude N.		Longitude West by K.		Thermom.		No of Obs.	Remarks.
	H	M	H	M	°	'	°	'	°	'	A.	B.		
h June 24.	6	50 54	4	2 53 $\frac{1}{2}$	32	11 $\frac{1}{2}$	14	53	36	35 $\frac{1}{2}$	77 $\frac{1}{2}$	78	6	
o — 25.			Noon.		82	44 $\frac{1}{2}$	16	20 $\frac{1}{2}$			77 $\frac{1}{2}$	82 $\frac{1}{2}$		
	6	29 29	3	36 38 $\frac{1}{2}$	38	45 $\frac{1}{2}$	16	35	37	43 $\frac{1}{2}$	76 $\frac{1}{2}$	79	6	Cloudy.
	22	35 7	19	38 46	28	53 $\frac{1}{2}$	17	39 $\frac{1}{2}$	38	31 $\frac{1}{2}$	77 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
h — 26.			Noon.		84	19 $\frac{1}{2}$	17	53 $\frac{1}{2}$			77 $\frac{1}{2}$	78 $\frac{1}{2}$		
	6	38 27	3	40 28	38	18 $\frac{1}{2}$	18	7 $\frac{1}{2}$	38	54 $\frac{1}{2}$	76	78 $\frac{1}{2}$	6	
	21	23 49	18	23 51	12	35 $\frac{1}{2}$	19	9 $\frac{1}{2}$	39	19 $\frac{1}{2}$	75 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
h — 27.			Noon.		85	59 $\frac{1}{2}$	19	31 $\frac{1}{2}$				78		
	6	55 1	3	53 38 $\frac{1}{2}$	35	45 $\frac{1}{2}$	19	50 $\frac{1}{2}$	39	38 $\frac{1}{2}$	76 $\frac{1}{2}$	77	6	
	21	15 35	18	13 5 $\frac{1}{2}$	10	50	20	51	39	51 $\frac{1}{2}$	77	75	6	
h — 28.			Noon.		87	51 $\frac{1}{2}$	21	20 $\frac{1}{2}$			78 $\frac{1}{2}$	78		
	7	11 2	4	7 9 $\frac{1}{2}$	33	10 $\frac{1}{2}$	21	41 $\frac{1}{2}$	40	9 $\frac{1}{2}$	78 $\frac{1}{2}$	80	4	Cloudy.
	2	46 39 $\frac{1}{2}$	23	41 7	85	28	23	8 $\frac{1}{2}$	40	29 $\frac{1}{2}$	81	78 $\frac{1}{2}$	6	
h — 29.			Noon.		89	43 $\frac{1}{2}$	23	10 $\frac{1}{2}$			78 $\frac{1}{2}$	81		
	3	25 7	0	19 44	85	16 $\frac{1}{2}$	23	11 $\frac{1}{2}$	40	26 $\frac{1}{2}$	81	78 $\frac{1}{2}$	6	
	22	22 43	19	14 43	25	28	24	47	41	1 $\frac{1}{2}$	75 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
h — 30.			Noon.		87	50 $\frac{1}{2}$	25	9 $\frac{1}{2}$	Dip	4 $\frac{1}{2}$	77	80 $\frac{1}{2}$		
	7	6 38 $\frac{1}{2}$	3	57 49 $\frac{1}{2}$	36	5	25	30	41	11	77	80	6	
	21	13 7	18	2 42 $\frac{1}{2}$	10	35 $\frac{1}{2}$	26	34 $\frac{1}{2}$	41	31	75	74 $\frac{1}{2}$	6	
h July 1.			Noon.		85	52	27	4 $\frac{1}{2}$	Dip	4 $\frac{1}{2}$	76	76 $\frac{1}{2}$		
	6	6 19	2	55 29 $\frac{1}{2}$	50	8 $\frac{1}{2}$	27	21 $\frac{1}{2}$	41	35 $\frac{1}{2}$	75 $\frac{1}{2}$	76	10	
	7	17 54	4	7 9 $\frac{1}{2}$	34	21 $\frac{1}{2}$	27	26 $\frac{1}{2}$	41	33 $\frac{1}{2}$	75 $\frac{1}{2}$	76	6	
	23	56 22	20	44 18	45	43 $\frac{1}{2}$	28	26 $\frac{1}{2}$	41	49 $\frac{1}{2}$	75	74 $\frac{1}{2}$	6	
o — 2.			Noon.		84	10 $\frac{1}{2}$	28	42	Dip	4 $\frac{1}{2}$	76 $\frac{1}{2}$	75		
	5	38 29	2	26 20	56	33 $\frac{1}{2}$	28	53	41	48 $\frac{1}{2}$	77	75 $\frac{1}{2}$	10	
	7	24 9	4	12 12	33	29 $\frac{1}{2}$	28	58	41	45 $\frac{1}{2}$	77 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
	21	55 57	18	44 51	20	17	29	43	41	29 $\frac{1}{2}$	74 $\frac{1}{2}$	74	6	
h — 3.			Noon.		82	47 $\frac{1}{2}$	29	59 $\frac{1}{2}$			76 $\frac{1}{2}$	74		
	6	1 4	2	50 48	51	11 $\frac{1}{2}$	30	8	41	14 $\frac{1}{2}$	76 $\frac{1}{2}$	75	6	
	21	17 8 $\frac{1}{2}$	18	7 41 $\frac{1}{2}$	12	57 $\frac{1}{2}$	30	52 $\frac{1}{2}$	40	58 $\frac{1}{2}$	74	73 $\frac{1}{2}$	3	Cloudy.
h — 4.			Noon.		81	24 $\frac{1}{2}$	31	18 $\frac{1}{2}$			76	75		
	6	30 28	3	21 22 $\frac{1}{2}$	44	36 $\frac{1}{2}$	31	25	40	50 $\frac{1}{2}$			6	
	23	13 39	20	5 13 $\frac{1}{2}$	37	35 $\frac{1}{2}$	32	22 $\frac{1}{2}$	40	36 $\frac{1}{2}$	74	73	6	
h — 5.			Noon.		80	5 $\frac{1}{2}$	32	31 $\frac{1}{2}$			76	75		
	8	28 27	5	20 22 $\frac{1}{2}$	19	52 $\frac{1}{2}$	32	38 $\frac{1}{2}$	40	29 $\frac{1}{2}$	77	76	6	
	23	57 56	20	49 50 $\frac{1}{2}$	46	55 $\frac{1}{2}$	33	5	40	25 $\frac{1}{2}$	75 $\frac{1}{2}$	74 $\frac{1}{2}$	6	
h — 6.			Noon.		79	22 $\frac{1}{2}$	33	8 $\frac{1}{2}$			76 $\frac{1}{2}$	76 $\frac{1}{2}$		
	5	49 18	2	41 32	52	63 $\frac{1}{2}$	33	10	40	19 $\frac{1}{2}$	78 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
	6	15 0	3	7 16	47	31 $\frac{1}{2}$	33	10	40	18 $\frac{1}{2}$	78 $\frac{1}{2}$	76 $\frac{1}{2}$	6	
	22	52 7	19	44 27	33	16	33	25 $\frac{1}{2}$	40	13 $\frac{1}{2}$	76	75	6	
h — 7.			Noon.		78	52 $\frac{1}{2}$	33	32 $\frac{1}{2}$			78	77 $\frac{1}{2}$		
	7	49 39	4	42 33	27	42 $\frac{1}{2}$	33	38 $\frac{1}{2}$	40	3 $\frac{1}{2}$	79 $\frac{1}{2}$		6	
	23	51 15	20	43 49 $\frac{1}{2}$	45	33 $\frac{1}{2}$	34	1 $\frac{1}{2}$	40	4 $\frac{1}{2}$	74 $\frac{1}{2}$	74	6	
h — 8.			4	1 18 $\frac{1}{2}$	36	13 $\frac{1}{2}$	34	14 $\frac{1}{2}$	40	11 $\frac{1}{2}$	77	79 $\frac{1}{2}$	10	
	23	10 34 $\frac{1}{2}$	20	1 44	36	49 $\frac{1}{2}$	34	55	40	20	75	75 $\frac{1}{2}$	6	
o — 9.			Noon.		77	8 $\frac{1}{2}$	35	3			76 $\frac{1}{2}$	76 $\frac{1}{2}$		

1775	Time by Watch K		Apparent Time	Altitude of the ☉ : L L	Latitude North	Longitude West by K	Thermion		Z	Remarks
	H	M					A	B		
O July 9	7	48 17	4 40 38	28 14 $\frac{1}{2}$	35 10	40 0 $\frac{1}{2}$	77 $\frac{1}{2}$	75 $\frac{1}{2}$	6	
D — 10	23	20 18	20 14 25 $\frac{1}{2}$	39 25 $\frac{1}{2}$	35 34 $\frac{1}{2}$	39 30	75	75 $\frac{1}{2}$	6	
			Noon	76 18 $\frac{1}{2}$	35 45 $\frac{1}{2}$					
	7	49 1 $\frac{1}{2}$	4 45 48	27 16	35 58	38 48 $\frac{1}{2}$	77 $\frac{1}{2}$	77	6	
	22	45 52	19 49 56	34 26 $\frac{1}{2}$	36 44	36 55 $\frac{1}{2}$	76	76 $\frac{1}{2}$	6	
			Noon	70 0 $\frac{1}{2}$	36 55 $\frac{1}{2}$		75 $\frac{1}{2}$	6		
	6	57 48	4 6 8	35 11 $\frac{1}{2}$	37 6	35 49 $\frac{1}{2}$	76	76	6	
	22	53 33	20 10 2	38 23 $\frac{1}{2}$	37 58	33 44 $\frac{1}{2}$	74	76	6	
			Noon	73 35 $\frac{1}{2}$	38 12 $\frac{1}{2}$		76 $\frac{1}{2}$	75 $\frac{1}{2}$		
	6	28 4 $\frac{1}{2}$	3 49 24	38 28 $\frac{1}{2}$	38 13	32 29 $\frac{1}{2}$	74 $\frac{1}{2}$	75	6	
	23	53 18	21 22 22	52 17 $\frac{1}{2}$	38 28 $\frac{1}{2}$	30 29 $\frac{1}{2}$	73	74	6	Very hazy
			Noon	73 9 $\frac{1}{2}$	38 29 $\frac{1}{2}$		75	74 $\frac{1}{2}$		
	6	44 32	4 17 5	32 29 $\frac{1}{2}$	38 32	29 36 $\frac{1}{2}$	75 $\frac{1}{2}$	74	6	The island Fayal, East
<p>In the morning I took the Watch and Astronomical Quadrant on shore, at the Villa de Horta, on the island Fayal, and noted the times of equal altitudes of the Sun by the Watch every day, from the 14th to the 18th inclusive from whence it appeared that the Watch was then gaining 13,528 a day on mean time, or 0,324 more than it was gaining at the Cape of Good Hope, and that it was 2 h 20 37$\frac{1}{2}$ to fast for mean time at Fayal on July 18th at noon. The rate of its going, found at this place, being so little different from that which was found at the Cape, I continued to compute the longitude of the ship on the same suppositions as I had done before</p>										
	21	48 53	19 23 28	28 42 $\frac{1}{2}$	38 46 $\frac{1}{2}$	28 39 $\frac{1}{2}$	73	72 $\frac{1}{2}$	6	Cloudy The N 10 mi of St George 47 $\frac{1}{2}$ W 2 miles off
	17	19 3	4 58 39	24 25 $\frac{1}{2}$	39 2 $\frac{1}{2}$	27 22 $\frac{1}{2}$	74	74	3	Very cloudy The E end of Terceira 8 13 $\frac{1}{2}$ W 5 leagues
	21	10 42	18 54 38 $\frac{1}{2}$	23 5 $\frac{1}{2}$	39 9	26 15	71 $\frac{1}{2}$	72	6	
	1	24 35		68 18 $\frac{1}{2}$		OS 8 $\frac{1}{2}$ W at				
	2	30 15		70 58		1st Obs Ship's		76	5	
	3	26 28		65 43 $\frac{1}{2}$	39 13 $\frac{1}{2}$	course E $\frac{1}{2}$ N 2		75 $\frac{1}{2}$	5	
						miles an hour		74 $\frac{1}{2}$	5	
	7	24 2	5 9 58 $\frac{1}{2}$	22 10 $\frac{1}{2}$	39 15 $\frac{1}{2}$	25 42 $\frac{1}{2}$	72 $\frac{1}{2}$	77 $\frac{1}{2}$	6	
	21	35 40	19 25 34	28 56 $\frac{1}{2}$	39 24 $\frac{1}{2}$	24 41 $\frac{1}{2}$	72 $\frac{1}{2}$	70	6	
	5	43 44	3 36 8	40 8 $\frac{1}{2}$	39 26 $\frac{1}{2}$	24 2 $\frac{1}{2}$	72	74	5	
	22	46 12	20 41 56	43 29 $\frac{1}{2}$	39 35 $\frac{1}{2}$	23 9 $\frac{1}{2}$	70	71 $\frac{1}{2}$	5	Very cloudy
			Noon	70 28 $\frac{1}{2}$	39 37 $\frac{1}{2}$		71 $\frac{1}{2}$	74 $\frac{1}{2}$		
	5	3 46	3 1 2 $\frac{1}{2}$	46 39 $\frac{1}{2}$	39 45 $\frac{1}{2}$	22 45 $\frac{1}{2}$	71 $\frac{1}{2}$	73 $\frac{1}{2}$	6	
	21	25 11	19 29 13	29 27 $\frac{1}{2}$	40 32 $\frac{1}{2}$	21 1	70	68	10	
	23	18 1	21 22 38	50 37 $\frac{1}{2}$	40 39	20 52 $\frac{1}{2}$	70 $\frac{1}{2}$	67 $\frac{1}{2}$	10	
			Noon	69 5 $\frac{1}{2}$	40 48 $\frac{1}{2}$		71 $\frac{1}{2}$	69 $\frac{1}{2}$		
	6	6 33	4 13 48	32 38 $\frac{1}{2}$	41 4 $\frac{1}{2}$	20 11 $\frac{1}{2}$	72 $\frac{1}{2}$	72	6	
	21	39 37	19 52 12	33 39 $\frac{1}{2}$	41 52	18 49 $\frac{1}{2}$	67 $\frac{1}{2}$	68	6	

1775.	Time by Watch K.		Apparent Time.	Altitude of the Sun's L. L.	Latitude N.	Longitude Well by K	Thermom.		Remarks.
	H	"	H	"	"	"	A.	B.	
d July 24.			Noon.	67 35 $\frac{1}{2}$	42 6 $\frac{1}{2}$		70	69 $\frac{1}{2}$	A bad horizon.
	5 30 14		3 45 8	37 45 $\frac{1}{2}$	42 18	18 13 $\frac{1}{2}$	70	70	
	21 27 36		19 46 40	32 25 $\frac{1}{2}$	43 22	17 8 $\frac{1}{2}$	68	65 $\frac{1}{2}$	
b ——— 25.			Noon.	65 48 $\frac{1}{2}$	43 40 $\frac{1}{2}$		69 $\frac{1}{2}$	67	
	5 33 17		3 55 19	35 34 $\frac{1}{2}$	43 57 $\frac{1}{2}$	16 22 $\frac{1}{2}$	70	68	
	22 16 35		20 44 48	42 11 $\frac{1}{2}$	45 17	14 47 $\frac{1}{2}$	64 $\frac{1}{2}$	63 $\frac{1}{2}$	
h ——— 26.			Noon.	63 40 $\frac{1}{2}$	45 36		66	64	
	5 2 37		3 34 29 $\frac{1}{2}$	38 44 $\frac{1}{2}$	45 53	13 51 $\frac{1}{2}$	67	63 $\frac{1}{2}$	
	21 19 24		19 59 4	33 55 $\frac{1}{2}$	47 1	11 52 $\frac{1}{2}$	64	62 $\frac{1}{2}$	
u ——— 27.			Noon.	61 46 $\frac{1}{2}$	47 16 $\frac{1}{2}$		67	64 $\frac{1}{2}$	
	4 49 49		3 2 54	38 28 $\frac{1}{2}$	47 27	11 0 $\frac{1}{2}$	69 $\frac{1}{2}$		
	21 41 39		20 30 56	38 50 $\frac{1}{2}$	47 59 $\frac{1}{2}$	9 26 $\frac{1}{2}$	65	62 $\frac{1}{2}$	
z ——— 28.			Noon.	60 39 $\frac{1}{2}$	48 9 $\frac{1}{2}$		67	64 $\frac{1}{2}$	
	5 50 58 $\frac{1}{2}$		4 44 50	26 16 $\frac{1}{2}$	48 24	8 15 $\frac{1}{2}$	69 $\frac{1}{2}$	65	
	21 2 48		20 6 27	34 26 $\frac{1}{2}$	49 17 $\frac{1}{2}$	5 46 $\frac{1}{2}$	65 $\frac{1}{2}$	62 $\frac{1}{2}$	
b ——— 29.			Noon.	58 57 $\frac{1}{2}$	49 37 $\frac{1}{2}$		67 $\frac{1}{2}$	62 $\frac{1}{2}$	
	4 9 55		3 18 4	39 45	49 54 $\frac{1}{2}$	4 38 $\frac{1}{2}$	69	64	

A little before noon on the 30th we anchored at Spithead, and soon after I carried the Watch on shore, in company with Captain Cook and Lieutenant Cooper, to the Observatory belonging to the Royal Academy at Portsmouth, where I transcribed the following Observations of the Sun's transit over the meridian from their books, viz.

	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	"	"	H	"	"	
d July 25.		15 8 $\frac{1}{2}$	8 16 9 $\frac{1}{2}$			☉'s 1st Limb.
			18 23	19 23 $\frac{1}{2}$		☉'s 2d Limb.
h ——— 26.	18 5	19 5 $\frac{1}{2}$	8 20 5 $\frac{1}{2}$	23 19 $\frac{1}{2}$	24 19 $\frac{1}{2}$	☉'s 1st Limb.
			22 19 $\frac{1}{2}$			☉'s 2d Limb.
u ——— 27.		23 0	8 24 0 $\frac{1}{2}$	27 14 $\frac{1}{2}$		☉'s 1st Limb.
			16 14 $\frac{1}{2}$			☉'s 2d Limb.

We then compared the Watch with the Clock as follows :

Time by the Clock.	Time by Watch K.	
H	H	
10 5 0	2 6 56 $\frac{1}{2}$	By W. Wales.
6 0	7 56	By Mr. Witchell.
7 0	8 55 $\frac{1}{2}$	By Capt. Cook.

1775

Mr Witchell, Head Master of the Royal Academy at Portsmouth, has since favoured me with the following Observations

	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	"	"	H "	"	"	
2 July 31	37 37 $\frac{1}{2}$	38 37 $\frac{1}{2}$	8 39 37 $\frac{1}{2}$			O s 1st Lumb
			41 50 $\frac{1}{2}$	42 50 $\frac{1}{2}$	43 50 $\frac{1}{2}$	O s 2d Lumb
4 Aug 1	41 31	42 30 $\frac{1}{2}$	8 43 30 $\frac{1}{2}$			O s 1st Lumb
			45 43 $\frac{1}{2}$	46 42 $\frac{1}{2}$	47 42 $\frac{1}{2}$	O s 2d Lumb

Hence it appears, that the Watch was too fast for mean time, at Portsmouth, by 0 h 33 1 $\frac{1}{2}$, and of course it gave the longitude of Portsmouth 1 2 50 West of Greenwich, according to the mode of reckoning I have followed since leaving the Cape of Good Hope. The true longitude of the Observatory at Portsmouth is 1° 6' 15" West, and therefore the error of the Watch in our run from the Cape is 0° 16' 41". If we suppose it to have gone all the voyage at the rate it went at Greenwich before its setting out, it will place Portsmouth 316° 10' 18", East of Drake's Island, instead of 360° + 3 9' 52", consequently the total error of the Watch in the whole voyage or three years and twenty days, is 16 59 34". Moreover, seeing that the Watch was too fast for mean time as above if we allow it to have gained 13", 528 each day since leaving Laysal, as it was found to do there, the difference of longitude between that place and Portsmouth will be 27° 34' 35"; that is, 28° 41' 5" between Fayal and Greenwich; Laysal being so much to the West.

On Monday I brought the Watch up to London with me in a post chaise; and on Tuesday, August 1, carried it down to Greenwich in a coach, and delivered it to the Rev Mr Maskelyne, his Majesty's Astronomer Royal. On comparing it with the Transit Clock there, we found that the Watch shewed 0 h 56, when the Transit Clock shewed 9 h 3 24. The Sun's transit that day was at 8 h 42 18 36 from whence it appears that the mean time of comparing the Watch was 0 h 26 55", 6, and of course that the Watch was too fast for mean time at Greenwich by 0 h 29 4", 4; and therefore allowing its Fayal rate, it makes the difference of Longitude between Portsmouth and Greenwich 4 23" 85 in time, or 1 5 51.

The Rev Mr Maskelyne found that this Watch lost at the rate of 0 $\frac{1}{2}$ " a day on mean time between March 24th and April 25th 1772, before it went on the voyage; and that it gained at the rate of 13", 0 a day from August 1st to September 1st 1775, after its return.

From the preceding account it appears to what an amazing degree of accuracy the ingenious Inventor of this Watch had brought this branch of mechanics so long ago as the year 1762, or 3; and at the same time what room is yet left for future improvements by other Artists but let no man boast that he has excelled him, until his machines have undergone as rigorous a trial as this has done.

Comparisons of the Time-keepers with each other.

Comparisons of Mr. Arnold's Watches, Nos. 1 and 2 with each other.

1772.	Time by Watch No. 1.			Time by Watch No. 2.			1772.	Time by Watch No. 1.			Time by Watch No. 2.		
	H	"		H	"			H	"		H	"	
♀ July 10.	Both Watches were set 12" too slow for mean time.						♂ Aug. 18.	1	46	0	2	39	34
h ——— 11.	No. 2 stopped.						♂ ——— 19.	1	53	0	2	46	40
○ ——— 12.	0	30	0	1	23	45	h ——— 20.	1	24	0	2	17	49
h ——— 13.	0	29	4	1	23	0	♀ ——— 21.	2	7	0	3	0	54
♂ ——— 14.	0	43	0	1	37	0 $\frac{1}{2}$	h ——— 22.	1	33	0	2	27	4
h ——— 15.	0	34	48	1	29	0	○ ——— 23.	1	10	0	2	4	14
h ——— 16.	0	32	43	1	27	0	h ——— 24.	1	16	0	2	10	22
♀ ——— 17.	1	1	39 $\frac{1}{2}$	1	56	0	♂ ——— 25.	1	8	0	2	2	25
h ——— 18.	0	55	37 $\frac{1}{2}$	1	50	0	h ——— 26.	0	59	0	1	53	31
○ ——— 19.	0	56	43 $\frac{1}{2}$	1	51	0	h ——— 27.	1	0	0	1	54	41
h ——— 20.	0	51	48 $\frac{1}{2}$	1	46	0	♀ ——— 28.	1	6	0	2	0	49
♂ ——— 21.	1	10	47 $\frac{1}{2}$	2	5	0	h ——— 29.	0	36	0	1	30	58
h ——— 22.	1	14	51 $\frac{1}{2}$	2	9	0	○ ——— 30.	0	42	0	1	37	10
h ——— 23.	1	14	53	2	9	0	h ——— 31.	0	50	0	1	45	19
♀ ——— 24.	1	14	51	2	9	0	♂ Sept. 1.	0	21	0	1	16	20
h ——— 25.	1	17	50	2	12	0	h ——— 2.	0	45	0	1	40	26
○ ——— 26.	1	21	48	2	16	0	h ——— 3.	0	53	0	1	48	29
♂ ——— 27.	1	9	47	2	4	0	♀ ——— 4.	0	31	0	1	26	34
h ——— 28.	1	57	46 $\frac{1}{2}$	2	52	0	h ——— 5.	0	37	0	1	32	50
h ——— 29.	0	47	46 $\frac{1}{2}$	1	42	0	○ ——— 6.	0	38	0	1	34	13
h ——— 30.	1	26	0	0	20	16	h ——— 7.	0	27	0	1	23	29
♀ ——— 31.	0	59	0	1	53	12 $\frac{1}{2}$	♂ ——— 8.	0	28	0	1	24	36
h Aug. 1.	0	37	0	1	31	7	h ——— 9.	1	1	0	1	57	42
○ ——— 2.	1	36	0	2	29	59 $\frac{1}{2}$	h ——— 10.	0	43	0	1	39	49
h ——— 3.	1	29	0	2	22	55 $\frac{1}{2}$	♀ ——— 11.	0	53	0	1	49	51
♂ ——— 4.	1	34	0	2	27	55 $\frac{1}{2}$	h ——— 12.	1	10	0	2	7	2
h ——— 5.	1	31	0	2	24	54 $\frac{1}{2}$	○ ——— 13.	0	59	0	1	55	57
h ——— 6.	1	53	0	2	46	55	h ——— 14.	0	43	0	1	40	22
♀ ——— 7.	1	34	0	2	25	55	♂ ——— 15.	1	21	0	2	18	31
h ——— 8.	1	31	0	2	24	56	h ——— 16.	1	0	0	1	57	45
○ ——— 9.	1	44	0	2	37	50	h ——— 17.	1	9	0	2	7	4
h ——— 10.	1	47	0	2	40	48	♀ ——— 18.	1	7	0	2	5	5
♂ ——— 11.	2	9	0	3	2	48 $\frac{1}{2}$	h ——— 19.	0	56	0	1	54	16
h ——— 12.	1	41	0	2	34	46 $\frac{1}{2}$	○ ——— 20.	1	30	0	2	28	17
h ——— 13.	1	44	0	2	37	37 $\frac{1}{2}$	h ——— 21.	1	26	0	2	24	17
♀ ——— 14.	2	8	0	3	1	30	♂ ——— 22.	1	8	0	2	6	19
h ——— 15.	2	5	0	2	58	29 $\frac{1}{2}$	h ——— 23.	1	27	0	2	25	55
○ ——— 16.	2	5	0	2	58	29	h ——— 24.	1	11	0	2	9	35
h ——— 17.	2	54	0	3	47	34	♀ ——— 25.	1	34	0	2	31	21
							h ——— 26.	1	23	0	2	20	27

Comparisons of Mr Arnold's Watches Nos 1 and 2 with each other

1772	Time by Watch No 1	Time by Watch N 2	1772	Time by Watch N 1	Time by Watch N 2
	H	H		H	H
O Sept 27	0 12 0	1 7 45	4 Oct 15	23 41 0	16 22 45
D — 28	1 9 0	2 4 55	♀ — 16	23 58 0	16 40 10 ¹
♂ — 29	1 17 0	2 13 1	h — 17	23 13 0	15 31 12
♀ — 30	1 4 0	2 0 14	O — 18	23 12 0	15 16 26
4 Oct 1	1 1 0	1 57 21 ¹ / ₂	D — 19	23 2 0	14 47 27
♀ — 2	0 41 0	1 36 46 ¹ / ₂	♂ — 20	23 6 0	13 43 41 ¹ / ₂
h — 3	0 41 0	1 36 33	♀ — 21	22 58 0	13 36 10
O — 4	0 42 0	1 37 22	4 — 22	23 10 0	9 5 5
D — 5	0 22 0	0 29 34	♀ — 23	23 6 0	4 48 29
♂ — 6	0 27 0	23 32 55	h — 24	22 52 0	4 20 11
♀ — 7	0 25 0	22 17 31	O — 25	22 38 0	4 5 39
4 — 8	0 14 0	21 47 5	D — 26	22 28 0	3 15 5
♀ — 9	0 47 0	22 17 1	♂ — 27	22 31 0	3 15 5 ¹ / ₂
h — 10	0 14 0	21 47 5	♀ — 28	22 26 0	2 35 11 ¹ / ₂
O — 11	0 7 0	20 54 3	4 — 29	22 7 0	1 16 37 ¹ / ₂
D — 12	0 11 0	20 22 23	♀ — 30	22 26 0	1 36 9
♂ — 13	23 55 0	19 57 0	h — 31	22 24 0	1 31 45
♀ — 14	23 41 0	17 18 2	O Nov 1	22 26 0	1 37 16

Comparisons of the Watch K, with Mr Arnold's No 3

1772	Time by A, No 3	Time by Watch K	1772	Time by A, N 3	Time by Watch K
	H	H		H	H
♀ July 10	The Watch K was set 0 ⁷ too fast, and the Watch A, N 3, too slow by 10 ¹ / ₂ for mean time		4 July 23	0 31 0	0 39 57 ¹ / ₂
h — 11	0 7 16	0 8 0	♀ — 24	0 42 0	0 51 44 ¹ / ₂
O — 12	0 57 36	0 59 0	h — 25	0 52 0	1 2 33 ¹ / ₂
D — 13	0 5 2 ¹ / ₂	0 7 0	O — 26	0 51 0	1 2 22
♂ — 14	0 6 21	0 9 0	D — 27	0 46 0	0 58 16 ¹ / ₂
♀ — 15	0 20 45	0 24 0	♂ — 28	1 3 0	1 16 10
4 — 16	0 31 3 ¹ / ₂	0 35 0	4 — 29	1 10 0	1 24 5
♀ — 17	0 22 25 ¹ / ₂	0 27 0	♀ — 30	1 59 0	2 14 2
h — 18	0 18 44 ¹ / ₂	0 24 0	O Aug 31	11 25 0	11 40 54
O — 19	0 34 3	0 40 0	♀ — 2	0 47 0	1 5 1
D — 20	0 28 0	0 34 10	D — 3	0 59 0	1 18 14 ¹ / ₂
♂ — 21	0 28 0	0 35 24 ¹ / ₂	♂ — 4	0 54 0	1 14 32 ¹ / ₂
♀ — 22	0 30 0	0 38 11 ¹ / ₂	4 — 5	1 22 0	1 43 53 ¹ / ₂
			h — 6	1 6 0	1 29 13 ¹ / ₂
			♀ — 7	0 54 0	1 18 35
			h — 8	0 58 0	1 24 0 ¹ / ₂

Comparisons of the Watch K. with Mrn Arnold's No. 3.

1772.	Time by A, No. 3.			Time by Watch K.			1772.	Time by A, No. 3.			Time by Watch K.		
	H	'	"	H	'	"		H	'	"	H	'	"
⊙ Aug. 9.	0	56	0	1	23	24½	♂ Sept. 22.	23	45	0	1	14	23
☾ — 10.	0	58	0	1	26	50½	♀ — 23.	23	49	0	1	19	49
♂ — 11.	1	1	0	1	31	15	♂ — 24.	23	49	0	1	21	16
♀ — 12.	1	4	0	1	35	41	♀ — 25.	23	56	0	1	29	44
♂ — 13.	2	2	0	2	35	13	♂ — 26.	23	48	0	1	23	10
♀ — 14.	1	2	0	1	36	38½	⊙ — 27.	23	41	0	1	17	25½
♂ — 15.	1	15	0	1	51	7½	☾ — 28.	23	46	0	1	23	40½
⊙ — 16.	1	0	0	1	37	35	♂ — 29.	23	31	0	1	9	54½
☾ — 17.	0	47	0	1	26	3½	♀ — 30.	23	32	0	1	12	21
♂ — 18.	0	43	0	1	23	29	♂ Oct. 1.	23	17	0	0	58	50
♀ — 19.	1	11	0	1	52	49½	♀ — 2.	23	18	0	1	1	1
♂ — 20.	1	23	0	2	6	6	♂ — 3.	23	1	0	0	45	22½
♀ — 21.	0	35	0	1	19	18½	⊙ — 4.	22	50	0	0	35	41
♂ — 22.	0	22	0	1	7	35½	☾ — 5.	22	41	0	0	27	55
⊙ — 23.	0	18	0	1	4	50½	♂ — 6.	22	44	0	0	32	9½
☾ — 24.	0	8	0	0	56	8½	♀ — 7.	22	45	0	0	34	20½
♂ — 25.	0	7	0	0	56	26½	♂ — 8.	22	43	0	0	33	40
♀ — 26.	23	55	0	0	45	43	♀ — 9.	22	43	0	0	35	10½
♂ — 27.	23	54	0	0	46	0½	♂ — 10.	22	26	0	0	19	33
♀ — 28.	23	45	0	0	38	16	⊙ — 11.	22	29	0	0	23	44½
♂ — 29.	23	37	0	0	31	36	☾ — 12.	22	18	0	0	13	53
⊙ — 30.	23	37	0	0	33	0½	♂ — 13.	22	6	0	0	3	6
☾ — 31.	23	20	0	0	17	20½	♀ — 14.	22	2	0	0	0	20
♂ Sept. 1.	23	22	0	0	20	48	♂ — 15.	21	53	0	23	52	34½
♀ — 2.	23	21	0	0	21	5½	♀ — 16.	21	37	0	23	37	48
♂ — 3.	23	27	0	0	28	19½	♂ — 17.	21	21	0	23	22	59½
♀ — 4.	23	28	0	0	30	28	⊙ — 18.	21	21	0	23	24	7½
♂ — 5.	23	37	0	0	40	34	☾ — 19.	21	4	0	23	8	15½
⊙ — 6.	23	26	0	0	30	48½	♂ — 20.	21	4	0	23	9	27½
☾ — 7.	23	18	0	0	24	7½	♀ — 21.	21	4	0	23	10	38
♂ — 8.	23	30	0	0	37	46	♂ — 22.	21	0	0	23	7	47
♀ — 9.	23	21	0	0	30	24	♀ — 23.	20	58	0	23	7	0
♂ — 10.	23	23	0	0	33	49½	♂ — 24.	20	42	0	22	52	23½
♀ — 11.	23	36	0	0	48	28½	⊙ — 25.	20	32	0	22	43	47
♂ — 12.	23	26	0	0	40	13½	☾ — 26.	20	29	0	22	42	9½
⊙ — 13.	23	35	0	0	50	58½	♂ — 27.	20	24	0	22	38	29½
☾ — 14.	23	36	0	0	53	29½	♀ — 28.	20	20	0	22	35	56½
♂ — 15.	23	42	0	1	1	20	♂ — 29.	20	19	0	22	36	26
♀ — 16.	23	48	0	1	9	9	♀ — 30.	20	9	0	22	28	2½
♂ — 17.	23	40	0	1	2	40	♂ — 31.	20	13	0	22	33	28½
♀ — 18.	23	53	0	1	17	4½	⊙ Nov. 1.	20	20	0	22	41	59
♂ — 19.	23	38	0	1	3	34½	☾ — 2.	19	49	0	22	12	21½
⊙ — 20.	23	42	0	1	9	12½	♂ — 16.	20	38	0	23	23	5½
☾ — 21.	23	48	0	1	16	21½	♀ — 18.	22	36	0	22	35	1½

Comparisons of the Watches with each other

1772	Time by A, N 3			Time by Watch K			1773	Time by A, N 3			Time by Watch K		
	H			H				H			H		
Nov 19	23	12	0	23	12	32 _r	♀ Jan 1	22	20	0	23	17	18 ₊
20	23	12	0	23	13	55 _r	h 2	22	18	0	23	16	52
21	21	3	0	21	5	55 ₊	0 3	22	34	0	23	34	28 ₊
22	22	18	0	22	22	11 _r	0 4	22	21	0	23	23	0
23	22	25	0	22	30	20	♂ 5	22	0	0	23	3	27 ₊
24	22	27	0	22	33	29 ₊	♀ 6	21	46	0	22	50	53
25	22	33	0	22	40	42 _r	h 7	21	7	0	22	13	21 ₊
26	22	46	0	22	54	55 _r	♀ 8	21	4	0	22	11	51 ₊
27	22	31	0	22	41	6 _r	h 9	21	0	0	22	9	26
28	22	31	0	22	42	18	0 10	20	50	0	22	1	2 ₊
29	22	46	0	22	58	29	0 11	20	31	0	21	43	36 ₊
30	23	14	0	23	27	48 ₊	♂ 12	20	19	0	21	33	12 ₊
Dec 1	22	53	0	23	8	2 ₊	♀ 13	20	21	0	21	36	50
2	22	29	0	22	45	16 ₊	h 14	20	16	0	21	33	34 ₊
3	22	27	0	22	44	31	♀ 15	20	11	0	21	30	18
4	22	15	0	22	33	44	h 16	20	10	0	21	31	2
5	22	21	0	22	40	56 _r	0 17	20	14	0	21	38	42 ₊
6	22	33	0	22	54	0 ₊	0 18	20	11	0	21	35	16 ₊
7	22	26	0	22	48	8 _r	♂ 19	20	18	0	21	43	51 ₊
8	22	42	0	23	5	37	♀ 20	20	8	0	21	35	25
9	22	23	0	22	48	2	h 21	20	10	0	21	39	0 ₊
10	22	6	0	22	32	27 ₊	♀ 22	20	0	0	21	30	33
11	22	4	0	22	31	54	h 23	20	1	0	21	33	8 ₊
12	22	19	0	22	48	22	0 24	19	22	0	20	55	34 ₊
13	22	14	0	22	44	42	0 25	19	23	0	20	58	12 _r
14	22	8	0	22	39	57 ₊	♂ 26	19	16	0	20	52	46
15	21	57	0	22	30	15	♀ 27	19	14	0	20	52	22 ₊
16	22	3	0	22	37	39 ₊	h 28	19	24	0	21	4	1
17	21	49	0	22	25	3 ₊	♀ 29	18	58	0	20	39	39 ₊
18	21	45	0	22	22	27 ₊	h 30	19	5	0	20	48	18 ₊
19	21	40	0	22	18	48 ₊	0 31	19	0	0	20	44	58 ₊
20	21	32	0	22	12	14	0 Feb 1	18	43	0	20	29	37
21	21	28	0	22	9	38	♂ 2	18	35	0	20	23	15 ₊
22	21	13	0	21	56	1 ₊	♀ 3	18	31	0	20	20	59
23	21	1	0	21	45	24 ₊	h 4	18	26	0	20	17	45
24	21	11	0	21	56	47 ₊	♀ 5	18	27	0	20	20	28
25	21	21	0	22	8	12 ₊	h 6	18	36	0	20	30	58 ₊
26	21	24	0	22	12	36	0 7	18	15	0	20	11	29 ₊
27	21	37	0	22	27	2	0 8	18	7	0	20	5	6 ₊
28	21	47	0	22	38	28 ₊	♂ 9	18	16	0	20	15	51 _r
29	21	55	0	22	47	56	♀ 10	17	55	0	19	56	30 _r
30	22	0	0	22	54	21 ₊	h 11	17	37	0	19	40	7
31	22	8	0	23	3	51	♀ 12	17	37	0	19	41	45 ₊
							h 13	17	16	0	19	22	23 ₊

Comparisons of the Watches with each other

1773	Time by A, No 3		Time by Watch K		1773	Time by A, No 3		Time by Watch K	
	H		H			H		H	
○ Feb 14	17	5 0	19	13 0 _r	♂ March 30	10	25 0	13	44 59
♂ — 15	17	14 0	19	23 38	♂ — 31	9	31 0	12	52 34 _r
♂ — 16	16	57 0	19	8 16	♂ April 1	10	32 0	13	55 54
♂ — 17	17	29 0	19	41 57 _r	♀ — 2	9	51 0	13	16 22 $\frac{1}{2}$
♂ — 18	16	27 0	18	41 32	♂ — 3	9	41 0	13	8 12 $\frac{1}{2}$
♀ — 19	15	59 0	18	15 8	○ — 4	9	33 0	13	2 6
♂ — 20	15	52 0	18	9 43 _r	♂ — 5	10	16 0	13	47 2 $\frac{1}{2}$
○ — 21	15	45 0	18	4 23	♂ — 6	9	35 57 $\frac{1}{2}$	13	8 47 $\frac{1}{2}$
♂ — 22	15	29 0	17	50 1 $\frac{1}{2}$	♂ — 7	9	41 13 $\frac{1}{2}$	13	15 52 _r
♂ — 23	15	31 0	17	53 41 $\frac{1}{2}$	♂ — 8	9	27 33 _r	13	3 59 $\frac{1}{2}$
♂ — 24	15	19 0	17	43 19 _r	♀ — 9	9	33 45 $\frac{1}{2}$	13	12 3 $\frac{1}{2}$
♂ — 25	15	21 0	17	47 0 $\frac{1}{2}$	♂ — 10	9	20 7	13	0 13 $\frac{1}{2}$
♀ — 26	15	7 0	17	34 42	○ — 11	9	21 18 _r	13	2 20
♂ — 27	15	3 0	17	32 21	♂ — 12	9	31 36 $\frac{1}{2}$	13	15 24 $\frac{1}{2}$
○ — 28	14	38 0	17	8 53	♂ — 13	9	44 46 _r	13	30 28 $\frac{1}{2}$
♂ March 1	14	28 0	17	0 25 $\frac{1}{2}$	♂ — 14	9	3 17	12	50 43 _r
♂ — 2	14	35 0	17	8 57	♂ — 15	9	34 32 $\frac{1}{2}$	13	23 46 $\frac{1}{2}$
♂ — 3	14	26 0	17	1 31 $\frac{1}{2}$	♀ — 16	9	12 56	13	3 57 _r
♂ — 4	14	4 0	16	41 9 $\frac{1}{2}$	♂ — 17	9	2 17	12	55 12 $\frac{1}{2}$
♀ — 5	13	55 0	16	33 49	○ — 18	9	25 33 $\frac{1}{2}$	13	20 12 _r
♂ — 6	13	39 0	16	19 32 _r	♂ — 19	8	53 9	12	49 31 _r
○ — 7	13	25 0	16	7 13 _r	♂ — 20	9	19 18	13	17 34
♂ — 8	13	22 0	16	5 57	♂ — 21	9	0 49 $\frac{1}{2}$	13	0 42 _r
♂ — 9	13	19 0	16	4 35	♂ — 22	9	2 0	13	3 37
♂ — 10	12	54 0	15	41 5 _r	♀ — 23	9	47 0	12	50 22 $\frac{1}{2}$
♂ — 11	12	51 0	15	39 39	♂ — 24	8	58 0	13	3 4 $\frac{1}{2}$
♀ — 12	12	36 0	15	26 17	○ — 25	8	37 0	12	13 57
♂ — 13	12	28 0	15	19 56	♂ — 26	9	58 0	14	6 42 $\frac{1}{2}$
○ — 14	12	17 0	15	10 35 _r	♂ — 27	8	45 0	12	55 20 $\frac{1}{2}$
♂ — 15	11	57 0	14	52 10 $\frac{1}{2}$	♂ — 28	10	5 0	14	17 11 $\frac{1}{2}$
♂ — 16	11	40 0	14	36 42 _r	♂ — 29	8	57 0	13	10 54
♂ — 17	11	40 0	14	38 17 $\frac{1}{2}$	♀ — 30	8	39 0	12	54 34 $\frac{1}{2}$
♂ — 18	11	14 0	14	13 54	♂ May 1	10	48 0	15	5 29 $\frac{1}{2}$
♀ — 19	11	11 0	14	12 29	○ — 2	8	26 0	12	45 13 $\frac{1}{2}$
♂ — 20	10	56 0	13	59 4	♂ — 3	5	15 0	9	35 53 $\frac{1}{2}$
○ — 21	10	42 0	13	46 38	♂ — 4	6	52 0	11	14 12 _r
♂ — 22	10	35 0	13	41 19 $\frac{1}{2}$	♂ — 5	8	18 0	12	42 22
♂ — 23	10	21 0	13	29 4	♂ — 6	8	46 0	13	12 6 $\frac{1}{2}$
♂ — 24	10	0 0	13	9 37 $\frac{1}{2}$	♀ — 7	8	23 0	12	50 47 $\frac{1}{2}$
♂ — 25	10	9 0	13	20 21 $\frac{1}{2}$	♂ — 8	8	27 0	12	56 28 _r
♀ — 26	10	54 0	14	7 1	○ — 9	8	38 0	13	8 59 _r
♂ — 27	10	30 0	13	44 42	♂ — 10	8	22 0	12	54 23 $\frac{1}{2}$
○ — 28	9	39 0	12	55 30 $\frac{1}{2}$	♂ — 11	8	45 0	13	18 55
♂ — 29	12	14 0	15	23 27 $\frac{1}{2}$	♂ — 12	8	27 0	13	2 24 _r

O B S E R V A T I O N S

O F T H E

M O O N ' s D i s t a n c e f r o m t h e S U N a n d F i x e d S T A R S ,

F O R

D e t e r m i n i n g t h e L O N G I T U D E a t S E A ,

M a d e o n B o a r d h i s M A J E S T Y ' s S l o o p R E S O L U T I O N ,

I n h e r l a t e V o y a g e o n D i s c o v e r i e s t o w a r d s t h e S o u t h .

1772.	Time by Watch K.	Altitude of the ☉'s L. or *.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or *.	Latitude of the Ship N.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	°	°	°	°	°			
♂ July 21.	19 57 50	29 51	45 30 U.	95 21 30	43 41 $\frac{1}{2}$	9 59 $\frac{1}{2}$		2	☉ and ☉: Cloudy.
	21 50 4 $\frac{1}{2}$	49 47	28 4 $\frac{1}{2}$ U.	94 42 36	43 40	9 40 $\frac{1}{2}$		5	☉ and ☉.
	22 18 11 $\frac{1}{2}$	54 25 $\frac{1}{2}$	23 7 U.	94 32 50	43 38 $\frac{1}{2}$	9 42 $\frac{1}{2}$		3	☉ and ☉.
♂ — 22.	18 59 48	18 44 $\frac{1}{2}$	59 4 U.	84 35 0	42 41 $\frac{1}{2}$	10 9 $\frac{1}{2}$		3	☉ and ☉.
	19 5 34	19 46 $\frac{1}{2}$	58 56 $\frac{1}{2}$ U.	84 33 50	42 41 $\frac{1}{2}$	9 57 $\frac{1}{2}$		3	☉ and ☉.
♂ — 23.	19 17 13 $\frac{1}{2}$	20 25 $\frac{1}{2}$	64 41 $\frac{1}{2}$ U.	73 13 54	40 32	11 24 $\frac{1}{2}$	65 $\frac{1}{2}$	5	☉ and ☉.
♂ Aug. 4.	3 56 50 $\frac{1}{2}$	48 16 $\frac{1}{2}$	44 40 $\frac{1}{2}$ U.	72 35 40	28 28 $\frac{1}{2}$	17 36 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉: Very hazy.
♂ — 5.	4 12 31	45 4	36 45 U.	85 59 0	27 38 $\frac{1}{2}$	18 55 $\frac{1}{2}$	77 $\frac{1}{2}$	3	☉ and ☉.
♂ — 7.	Evening.	9 22 $\frac{1}{2}$	42 22 $\frac{1}{2}$ U.	112 48 35	23 34 $\frac{1}{2}$	19 50		3	☉ and ☉.
♂ — 18.	20 10 45 $\frac{1}{2}$	16 56 $\frac{1}{2}$	47 5 U.	114 1 47	10 50	19 16 $\frac{1}{2}$	80	7	☉ and ☉.
♂ — 22.	20 6 50 $\frac{1}{2}$	19 18 $\frac{1}{2}$	77 43 $\frac{1}{2}$ L.	68 32 30	6 57 $\frac{1}{2}$	16 41 $\frac{1}{2}$	80	5	☉ and ☉.
♂ — 23.	20 28 18	25 48	76 11 L.	56 16 45	6 29	14 54	78	1	☉ and ☉.
	20 50 45	31 21 $\frac{1}{2}$	77 35 $\frac{1}{2}$ L.	56 10 52	6 29	14 59	78	4	☉ and ☉.
♂ Sept. 4.	2 36 11	54 42 $\frac{1}{2}$	29 52 $\frac{1}{2}$ U.	94 26 42	0 49	9 45 $\frac{1}{2}$		6	☉ and ☉.
	3 16 46	44 48	38 54	94 42 30	0 49	9 45 $\frac{1}{2}$		6	☉ and ☉.
♂ — 5.	3 9 36	46 33	25 17 $\frac{1}{2}$ U.	107 5 24	0 54 $\frac{1}{2}$	9 49 $\frac{1}{2}$		7	☉ and ☉.
	4 7 16	31 58	38 9 $\frac{1}{2}$ U.	107 27 17	0 54 $\frac{1}{2}$	9 47 $\frac{1}{2}$		4	☉ and ☉.
♂ — 6.	4 9 58 $\frac{1}{2}$	30 32 $\frac{1}{2}$	28 8 $\frac{1}{2}$ U.	119 33 28	0 31	8 9 $\frac{1}{2}$		8	☉ and ☉: Very Cloudy.
♂ — 7.	7 33 36 $\frac{1}{2}$		62 59 $\frac{1}{2}$ U.	52 47 0	0 18	7 40 $\frac{1}{2}$		4	☉ & Antares.
♂ — 8.	8 2 16	43 31 $\frac{1}{2}$	59 16 $\frac{1}{2}$ U.	65 26 48	South.	9 14 $\frac{1}{2}$		5	☉ & Antares.
♂ — 12.	9 5 0	76 21	28 24 $\frac{1}{2}$ L.	65 14 20	5 0	14 52 $\frac{1}{2}$		9	☉ & α Aquila.
	17 24 18 $\frac{1}{2}$	69 5 $\frac{1}{2}$	28 57 $\frac{1}{2}$ L.	62 52 8	5 0	14 14 $\frac{1}{2}$		5	☉ and Aldebaran.
♂ — 17.	21 24 13 $\frac{1}{2}$	36 50 $\frac{1}{2}$	22 56 U.	110 15 42	12 16	17 50		14	☉ and ☉.
♂ — 19.	20 18 32	19 31 $\frac{1}{2}$	51 9 $\frac{1}{2}$ U.	87 26 35	15 24	19 54		6	☉ & ☉: Great mot. & hazy.
	22 1 39 $\frac{1}{2}$	43 47	35 0 $\frac{1}{2}$ U.	86 56 47	15 33	20 12		6	☉ & ☉: Violent mot.
♂ — 21.	21 31 20 $\frac{1}{2}$	35 18 $\frac{1}{2}$	54 31 $\frac{1}{2}$ U.	62 26 10	18 30	21 12 $\frac{1}{2}$		10	☉ and ☉.
♂ — 29.	8 13 47 $\frac{1}{2}$	55 11 $\frac{1}{2}$	22 51 $\frac{1}{2}$ L.	73 37 11				7	☉ & α Aquila. Very hazy.
♂ Oct. 1.	3 59 37 $\frac{1}{2}$	37 17 $\frac{1}{2}$	73 21 $\frac{1}{2}$ U.	64 11 23	27 29	17 45		5	☉ & ☉: Ramfden's Quad.
	4 4 28	35 59 $\frac{1}{2}$	74 31 $\frac{1}{2}$ U.	64 13 15	27 29	17 42		6	☉ & ☉: Mr. Smith's ditto.
	4 38 47 $\frac{1}{2}$	29 1	79 44 $\frac{1}{2}$ U.	64 24 15	27 28 $\frac{1}{2}$	18 3		5	☉ & ☉: Mr. Clarke's ditto.
		21 26	80 44 $\frac{1}{2}$ U.	64 32 57	27 28 $\frac{1}{2}$	17 14 $\frac{1}{2}$		5	☉ & ☉: Doland's ditto.
♂ — 2.	3 12 36 $\frac{1}{2}$	46 3 $\frac{1}{2}$	53 14 $\frac{1}{2}$ U.	76 53 20	27 44 $\frac{1}{2}$	16 39 $\frac{1}{2}$		6	☉ and ☉.
♂ — 3.	3 26 30	41 59	45 22 U.	89 29 7 $\frac{1}{2}$	28 14 $\frac{1}{2}$	15 39		4	☉ and ☉.
♂ — 5.	4 4 33	30 5 $\frac{1}{2}$	33 56 U.	113 29 59	28 54 $\frac{1}{2}$	11 9 $\frac{1}{2}$		14	☉ & ☉: Very uncert.

1772	Time by Watch K	Altitude of the ☉ s L. or *	Moon's Altitude	Distance of ☉ s L from ☉ s or Star	Latitude of the Ship S	Longitude West of Greenwch	Thermon	No of Obj	Objects
	H								
▷ Oct 5	4 9 41½	29 40½	35 0½ U	113 32 48	28 54½	11 35		5	▷ and ☉ Less uncert
↳ — 10	7 58 58½	42 53½	27 29½ L	72 24 2†		6 52½		9	▷ and α Aquilæ
○ — 11	8 5 50½	40 52	19 0½ L	83 14 15†		5 51		8	▷ and α Aquila
	13 37 19½	35 4	41 0½ L	43 30 7†		6 35½ East		7	▷ and Al debaran
↳ — 16	18 44 43	23 42 °	18 11½ U	118 30 6	35 1	4 7½	57	5	▷ and ☉ Cloudy
▷ — 19	15 25 10½	33 25	31 23½ L	56 25 30 †		8 16½		3	▷ and Al- debaran
	18 52 13½	29 34	17 43½ U	82 36 57	34 41½	7 47½		4	▷ and ☉
♂ — 20	18 13 21	44 18½	29 45½ U	82 11 54	34 43	7 48½		6	▷ and ☉
	20 15 37	21 42½	43 22½ U	70 5 7	35 20½	8 5½	60½	6	▷ and ☉
		45 54½	37 20 U	69 22 52	35 26½	7 56	60½	6	▷ and ☉
♀ Dec 4	2 25 56	35 30½	17 42½ U	118 16 30	46 0	17 51		6	▷ and ☉ Agreat sea
1773									
↳ Jan 2	4 6 48	27 0½	15 17½ U	108 58 49	58 52½	10 42	31½	9	▷ and ☉ Dollond's Q
	4 29 13½	24 3½	16 41½ U	109 10 51	58 52½	8 41½	31½	5	▷ and ☉ C Cook's Q
♂ — 13	16 38 56	27 34	19 4 U	112 31 34	64 1			1	▷ and ☉
	17 0 24½	29 55½	17 19½ U	112 23 9	64 1	39 29½		6	▷ and ☉
	17 9 5	30 49½	16 39½ U	112 19 44	64 1	39 49½		6	▷ and ☉
↳ — 14	17 50 21½	35 6	22 6½ U	98 53 45	63 32½		35	2	▷ and ☉
	18 8 45	36 55½	20 25½ U	98 46 35	63 32½	39 58½	35	6	▷ and ☉ With a 1 leaf
	18 30 50	38 59½	18 17½ U	98 32 30	63 32½	38 35½	35	6	▷ and ☉ Without
♀ — 27	23 48 11½	37 15½	31 45½ U	53 34 6	56 15	52 50	36	5	▷ and ☉ Dollond's Q
	23 57 47½	35 59½	31 39½ U	53 40 45	56 14½	51 7½	36	3	▷ & ☉ } Rend. Rend
	0 23 52½	32 48½	31 21½ U	53 49 39	56 13½	50 50	36	5	▷ & ☉ } Rend. Rend
↳ Feb 11	14 26 10	20 47½	30 36 U	118 28 57	52 28½	70 30½		5	▷ & ☉ } Rend. Rend
	15 18 8	28 42½	23 19½ U	118 0 55	52 31½	70 7		5	▷ & ☉ } Rend. Rend
	15 39 46½	31 39½	20 29½ U	117 50 57	52 32½	70 12½		5	▷ and ☉ Dollond's
♀ — 12	13 45 44	15 44½	42 33½ U	105 20 24	53 34½	72 24	34½	5	▷ and ☉ Ditto
	14 22 51	21 15	38 57 U	105 6 48	53 37½	73 10½	34½	5	▷ and ☉ Mr Clerk's Q
		34 37½	27 4½ U	104 22 34	53 43½	72 40½	35	4	▷ & ☉ } Rend. Rend
		36 19½	25 10½ U	104 15 43	53 43½	72 29½	35	3	▷ & ☉ } Rend. Rend

1773.	Time by Watch K.		Altitude of the ☉'s L. L. or *.	Moon's Altitude.	Distance of the Moon's L. from Sun or Star.	Latitude of the Ship S.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Objects.	
	H	M									
☿ Feb. 17.	13	43 18	19 36	43 17½ L.	40 52 8	57 53½	83 1	32	4	☿ and ☉.	
	13	59 51½	21 49	44 31 L.	40 45 49	57 53½	83 9½	32	2	☿ and ☉.	
☉ March 7.	2	6 9	20 27	10 6½ L.	37 31 57	†	121 51½		3	☿ and Procyon.	
h — 13.	13	47 21	32 23½	11 8½ U.	109 53 40	†	136 55½		5	☿ and ☉.	
	14	3 8	33 2½	9 14½ U.	109 43 40	†	136 46½		5	☿ and ☉.	
☉ May 16.	8	19 47	8 9½	45 33½ L.	50 49 20	40 25½	173 25½	51½	5	☿ and ☉.	
	9	50 45	20 54½	44 54 L.	50 24 26	40 29½	173 3½	51½	5	☿ and ☉.	
☿ June 8.	22	29 7	70 9½ T.	19 54½ L.	59 32 8	†	42 21½	175 30	51½	7	☿ and Antares.
h — 9.	9	52 52½	15 43½	14 56½ U.	114 51 37	43 49½	179 40½	53½	6	☿ and ☉.	
			14 51½	25 33½ U.	79 57 11	46 8½			4	☿ and ☉.	
h — 12.	9	51 59	15 52½	23 40½ U.	79 53 4	46 8½			5	☿ and ☉.	
	9	59 29	16 24½	22 33 U.	79 49 58	46 8½			6	☿ and ☉.	
h — 26.	11	25 53	22 54½	16 34 U.	68 6 15	†	197 27½	55	6	☿ and ☉.	
h — 28.	18	35 37	60 29½	47 25½ U.	53 14 34	†	198 11½	50½	6	☿ and Antares.	
h — 29.	20	57 55½	72 0½	39 11½ U.	38 12 1	†	199 19½	51½	6	☿ and Antares.	
h — 30.	19	44 30		57 2 U.	23 1 28	†	43 8½	199 13½	2	☿ and Spica ♀.	
☿ July 1.	19	25 40		61 47½ L.	62 28 0	†	43 4	202 15½	2	☿ and Aquila: Very cloudy.	
	19	41 43½		61 52½ L.	37 43 30	†	43 4	202 28½	4	☿ and Spica ♀.	
☿ — 2.			4 12½	12 35½ U.	148 51 27	43 2½	203 11½		7	☿ and ☉: Back Obs.	
☉ — 4.	17	11 6		21 9½ L.	36 8 19	†	205 10½	48½	4	☿ and Antares.	
☿ — 6.	6	21 44½	6 37	7 22½ U.	147 24 57	41 23	209 4½	51	7	☉ and ☿: Back Obs. Hazy.	
☿ — 9.	6	18 16	8 35	20 44 U.	111 26 15	43 27		52	1	☿ and ☉.	
h — 10.	6	44 49½	13 8½	18 59 U.	99 53 47	43 33½	216 53		6	☿ and ☉: Dollond's Q.	
			19 20½	8 36½ U.	99 31 15	43 33½	218 17½		2	☿ and ☉: Ramsden's.	
☉ — 11.	6	14 37½	10 37½	26 19½ U.	88 56 42	42 17½	218 38	47	9	☿ and ☉: Dollond's.	
	6	52 53	15 16½	20 39½ U.	88 45 57	43 17½	219 50	47	8	☿ and ☉: Ramsden's.	
h — 12.	2	41 45	63 28½	33 53½ L.	61 52 27	†	221 11½	46	6	☿ and Fomalhaut.	
	5	46 59	7 46½	31 10½ U.	78 6 20	43 2½	220 24½	47½	6	☿ and ☉: Dollond's Q.	

1773	Time by Watch K	Altitude of the ☉ & L L or S r	Moon & Altitude	Distance of the ☉ & L from ☉ or Star	Latitude of the Ship S	Longitude East of Greenwich	Thermom	No of Obs	Objects
H					°	°			
D July 12	7 3 32	17 13 $\frac{1}{2}$	21 59 $\frac{1}{2}$ U	77 45 2	43 2 $\frac{1}{2}$	221 15 $\frac{1}{2}$	47	6	☉ and ☉ Ramfden's Q
It appears from the watch, that one or both of the foregoing altitudes of the Sun are badly observed									
O — 25	17 39 16 $\frac{1}{2}$	83 41 $\frac{1}{2}$	26 8 L	57 15 2 +		223 34	62	5	☉ and Antares Hazy
D — 26	12 2 14	26 42	51 57 $\frac{1}{2}$ U	77 51 36	28 46	224 57 $\frac{1}{2}$	67	5	☉ and ☉ Dollond's Q
	12 27 5 $\frac{1}{2}$	22 41	56 32 U	78 1 50	28 45 $\frac{1}{2}$	224 28 $\frac{1}{2}$	67	6	☉ and ☉ Ramfden's
☉ — 27	11 50 19	29 12 $\frac{1}{2}$	41 32 $\frac{1}{2}$ U	91 2 25	27 50 $\frac{1}{2}$	225 17	69	6	☉ and ☉
	15 54 5		70 27 $\frac{1}{2}$ L	17 10 45 +	27 47 $\frac{1}{2}$	225 36 $\frac{1}{2}$	65 $\frac{1}{2}$	6	☉ and Spica 18
	16 23 53	21 19 $\frac{1}{2}$	66 20 $\frac{1}{2}$ L	80 52 5 +		224 50 $\frac{1}{2}$	65 $\frac{1}{2}$	6	☉ and α Aquila
☉ — 28	12 18 25	25 32 $\frac{1}{2}$	36 38 $\frac{1}{2}$ U	104 40 32	27 45	224 39	68	6	☉ and ☉
☉ — 29	12 51 57 $\frac{1}{2}$	12 22	32 20 $\frac{1}{2}$ U	118 15 34	27 26 $\frac{1}{2}$	224 25	70	6	☉ and ☉ Very hazy
☉ — 31	13 47 41	9 32 $\frac{1}{2}$	20 59 $\frac{1}{2}$ U	145 27 8	26 9 $\frac{1}{2}$	225 33 $\frac{1}{2}$	68	8	☉ and ☉ Back Obs
	15 59 52	79 42 $\frac{1}{2}$	49 39 $\frac{1}{2}$ U	30 17 11 +		225 24 $\frac{1}{2}$	67 $\frac{1}{2}$	6	☉ and An tars
D Aug 2	19 21 55 $\frac{1}{2}$		68 47 $\frac{1}{2}$ U	59 17 26 +	22 50	226 51	69	6	☉ and An tars
☉ — 3	18 28 35 $\frac{1}{2}$		43 52 L	73 9 38 +	21 48 $\frac{1}{2}$	227 4		6	☉ and An tars
☉ — 7	6 35 12	37 33	4 54 $\frac{1}{2}$ U	119 14 25	18 9 $\frac{1}{2}$			2	☉ and ☉ faint
☉ — 8	6 38 57 $\frac{1}{2}$	37 2 $\frac{1}{2}$	15 6 U	108 9 9	17 44 $\frac{1}{2}$	222 15		6	☉ and ☉
☉ — 9	6 53 24	38 30 $\frac{1}{2}$	22 30 U	97 3 35	17 24 $\frac{1}{2}$	220 17 $\frac{1}{2}$		4	☉ and ☉
☉ — 11	5 59 10	25 6	49 37 U	75 19 48	17 12 $\frac{1}{2}$	216 18		5	☉ and ☉ Hazy
☉ — 13	5 29 21 $\frac{1}{2}$	16 13 $\frac{1}{2}$	52 41 $\frac{1}{2}$ U	53 1 24 +		213 15 $\frac{1}{2}$	78	6	☉ and ☉
	5 54 40	21 51 $\frac{1}{2}$	53 58 $\frac{1}{2}$ U	52 55 27 +		213 17 $\frac{1}{2}$	78	6	☉ and ☉
☉ — 14	5 37 7	16 27 $\frac{1}{2}$	46 53 L	41 28 19 +	17 43 $\frac{1}{2}$	211 52	77	4	☉ and ☉ very faint.
☉ Sept 9	6 10 7		48 2 $\frac{1}{2}$ U	83 30 39 +	16 45 $\frac{1}{2}$	208 12 $\frac{1}{2}$	79	6	☉ & ☉
	6 40 36		43 32 $\frac{1}{2}$ U	83 23 27 +	16 45 $\frac{1}{2}$	208 29 $\frac{1}{2}$	79	6	☉ & ☉
☉ — 10	6 53 54		48 34 $\frac{1}{2}$ U	72 3 12 +	16 45 $\frac{1}{2}$	208 3 $\frac{1}{2}$	80 $\frac{1}{2}$	6	☉ & ☉
	7 15 26 $\frac{1}{2}$		52 38 $\frac{1}{2}$ U	60 25 39 +	16 25 $\frac{1}{2}$	207 58 $\frac{1}{2}$	76	6	☉ & ☉
☉ — 21	16 39 29 $\frac{1}{2}$	14 45	75 3 L	59 53 44	18 29	204 8	80 $\frac{1}{2}$	3	☉ & ☉
	15 43 54 $\frac{1}{2}$	11 25 $\frac{1}{2}$	71 56 $\frac{1}{2}$ L	59 57 28	18 29	204 4 $\frac{1}{2}$	80 $\frac{1}{2}$	5	☉ & ☉
☉ — 24	14 9 21	37 32 $\frac{1}{2}$	42 3 $\frac{1}{2}$ U	99 37 8	19 32 $\frac{1}{2}$	199 59 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and ☉
	14 31 12 $\frac{1}{2}$	32 34 $\frac{1}{2}$	47 0 U	99 47 14	19 33 $\frac{1}{2}$	199 3 $\frac{1}{2}$	74 $\frac{1}{2}$	3	☉ and ☉ Cloudy

1773.	Time by Watch K.		Altitude of the ☉'s L. or Star.	Moon's Altitude.	Distance of the ☉'s L. from the ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Object.
	H	M								
h Sept. 25.	13	37 39	46 24 $\frac{1}{2}$	20 17 $\frac{1}{2}$ U.	112 11 58	19 55 $\frac{1}{2}$	198 0 $\frac{1}{2}$	73 $\frac{1}{2}$	6	☉ and ☉.
h — 29.	20	41 41 $\frac{1}{2}$	49 23 $\frac{1}{2}$	57 11 L.	56 50 22 $\frac{1}{2}$		190 14 $\frac{1}{2}$	67	3	☉ and ☉ Aquilæ.
o Oct. 3.	21	32 53			70 22 40 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 36 $\frac{1}{2}$	69	6	☉ & ☉. malhaut.
	21	55 23			54 39 28 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 1	69	6	☉ and ☉ Pegasi.
	6	42 17		12 23 U.	146 24 20 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 6 $\frac{1}{2}$	69	9	☉ & ☉: Back Obs.
h — 4.	3	23 34		52 13 $\frac{1}{2}$ U.	83 8 52 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 23 $\frac{1}{2}$	65 $\frac{1}{2}$	6	☉ & ☉. malhaut.
	3	47 16		50 4 $\frac{1}{2}$ U.	56 2 8 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 51 $\frac{1}{2}$	65 $\frac{1}{2}$	7	☉ and ☉ Pollux.
	7	8 13 $\frac{1}{2}$		15 29 $\frac{1}{2}$ U.	135 14 25 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 5 $\frac{1}{2}$	68	9	☉ & ☉: Back Obs.
h — 6.	8	48 23		12 44 $\frac{1}{2}$ U.	113 0 14 $\frac{1}{2}$	21 4 $\frac{1}{2}$	185 20 $\frac{1}{2}$	72	9	☉ & ☉. D.
	9	1 34		10 4 $\frac{1}{2}$ U.	112 53 25 $\frac{1}{2}$	21 4 $\frac{1}{2}$	184 51 $\frac{1}{2}$	72 $\frac{1}{2}$	9	☉ & ☉. R.
h — 7.	8	59 0 $\frac{1}{2}$	45 46 $\frac{1}{2}$	19 52 $\frac{1}{2}$ U.	101 58 21	22 1 $\frac{1}{2}$	184 37	73 $\frac{1}{2}$	5	☉ and ☉.
	9	22 18 $\frac{1}{2}$	50 57 $\frac{1}{2}$	15 11 U.	101 49 35	22 1 $\frac{1}{2}$	184 45 $\frac{1}{2}$	73 $\frac{1}{2}$	6	☉ and ☉.
h — 9.	7	43 36 $\frac{1}{2}$	28 36 $\frac{1}{2}$	47 55 $\frac{1}{2}$ U.	79 53 17	22 36 $\frac{1}{2}$	183 59	70	6	☉ and ☉.
o — 10.	9	31 36	51 30 $\frac{1}{2}$	43 18 $\frac{1}{2}$ U.	67 22 14	23 42 $\frac{1}{2}$	182 27 $\frac{1}{2}$	69	6	☉ and ☉.
h — 11.	8	2 43	30 50 $\frac{1}{2}$	62 51 $\frac{1}{2}$ L.	55 35 12	25 18 $\frac{1}{2}$	181 53 $\frac{1}{2}$	69 $\frac{1}{2}$	6	☉ and ☉.
h — 20.	14	49 27	44 9 $\frac{1}{2}$	65 6 $\frac{1}{2}$ U.	55 58 21	37 58 $\frac{1}{2}$	179 49	61 $\frac{1}{2}$	6	☉ and ☉.
h — 21.	14	48 52	44 51 $\frac{1}{2}$	54 29 $\frac{1}{2}$ U.	69 32 4	39 10 $\frac{1}{2}$	178 6	63 $\frac{1}{2}$	6	☉ and ☉.
h — 23.	15	50 33 $\frac{1}{2}$	34 54 $\frac{1}{2}$	42 15 $\frac{1}{2}$ U.	95 50 0	40 28 $\frac{1}{2}$	176 42 $\frac{1}{2}$	58	6	☉ and ☉.
h Dec. 4.	5	29 37	9 30	24 47 $\frac{1}{2}$ U.	119 25 16 $\frac{1}{2}$	50 4 $\frac{1}{2}$	180 22 $\frac{1}{2}$	45	10	☉ and ☉: Very hazy.
h — 7.	9	23 50	44 22 $\frac{1}{2}$	24 18 $\frac{1}{2}$ U.	82 15 22	55 18 $\frac{1}{2}$	181 30 $\frac{1}{2}$	45	6	☉ and ☉: Cloudy.
h — 8.	10	14 5	48 52 $\frac{1}{2}$	26 17 $\frac{1}{2}$ U.	69 11 12 $\frac{1}{2}$		182 11 $\frac{1}{2}$	45	6	☉ and ☉: Hazy.
o — 19.	14	49 36	30 38 $\frac{1}{2}$	32 18 $\frac{1}{2}$ U.	69 12 39	64 49 $\frac{1}{2}$	210 51		6	☉ and ☉.
h — 24.	16	9 43	18 11 $\frac{1}{2}$	8 43 $\frac{1}{2}$ U.	126 31 18	67 3	223 0 $\frac{1}{2}$	33	10	☉ and ☉: Back Obs.
1774.										
h Jan. 5.			49 11 $\frac{1}{2}$	23 54 $\frac{1}{2}$ U.	89 40 13	52 12	224 45	46	1	☉ and ☉.
			52 1 $\frac{1}{2}$	20 51 U.	89 29 43	52 12	224 48 $\frac{1}{2}$	46	2	☉ and ☉.
h — 6.			38 40 $\frac{1}{2}$	43 4 $\frac{1}{2}$ U.	77 21 22	50 45 $\frac{1}{2}$	226 35	47 $\frac{1}{2}$	3	☉ & ☉. Cloudy.
	6	17 7	42 30 $\frac{1}{2}$	40 32 $\frac{1}{2}$ U.	77 11 55	50 45 $\frac{1}{2}$	226 36 $\frac{1}{2}$	47 $\frac{1}{2}$	6	☉ & ☉.
h — 7.	6	29 19	46 2 $\frac{1}{2}$	48 19 $\frac{1}{2}$ U.	63 51 7	49 19	228 47 $\frac{1}{2}$	47 $\frac{1}{2}$	6	☉ and ☉.
	6	59 11	50 27 $\frac{1}{2}$	45 18 U.	63 38 27	49 17	228 37	47 $\frac{1}{2}$	6	☉ and ☉.
h — 8.	5	27 52 $\frac{1}{2}$	38 35 $\frac{1}{2}$	56 48 $\frac{1}{2}$ U.	50 42 10 $\frac{1}{2}$		232 26 $\frac{1}{2}$	49	6	☉ and ☉.
o — 16.	12	13 4 $\frac{1}{2}$	37 20 $\frac{1}{2}$	38 27 $\frac{1}{2}$ U.	47 13 8 $\frac{1}{2}$		241 9 $\frac{1}{2}$	48 $\frac{1}{2}$	6	☉ and ☉: Very hazy.
h — 18.	11	7 44	41 9	22 13 $\frac{1}{2}$ U.	70 47 30 $\frac{1}{2}$		243 23 $\frac{1}{2}$	41 $\frac{1}{2}$	8	☉ and ☉.
h Feb. 3.	4	48 36	33 33 $\frac{1}{2}$	21 58 $\frac{1}{2}$ U.	95 56 51 $\frac{1}{2}$		259 53 $\frac{1}{2}$	34 $\frac{1}{2}$	6	☉ and ☉.

At Tongatabu, one of the Friendly Ills.

Cloudy.

1774-	Time by Watch K.	Altitude of the ☉ [L or *]	Moon's Altitude	Distance of the ☉ & L from ☉ or *	Latitude of the Ship 8	Longitude East of Greenwich	Thermom	No of Obs	Objects
	H	"	"	"	"	"			
Feb 3	5 11 18 $\frac{1}{2}$	25 13 $\frac{1}{2}$	19 55 $\frac{1}{2}$ U	95 46 31 +		260 15 $\frac{1}{2}$	34 $\frac{1}{2}$	6	☉ and ☉
4		25 23 $\frac{1}{2}$	36 53 $\frac{1}{2}$ U	83 35 22	64 28 $\frac{1}{2}$	260 28	37 $\frac{1}{2}$	4	☉ and ☉ Cloudy
18	10 17 0	38 53 $\frac{1}{2}$	23 47 $\frac{1}{2}$ U	83 22 50	43 52 $\frac{1}{2}$	265 54 $\frac{1}{2}$		6	☉ and ☉ Great Sea
19	11 47 14	23 54 $\frac{1}{2}$	27 28 $\frac{1}{2}$ U	94 48 15 +		264 16 $\frac{1}{2}$	59	6	☉ and ☉ Cloudy
20	10 35 31	36 47 $\frac{1}{2}$	14 27 $\frac{1}{2}$ U	105 16 52	39 43 $\frac{1}{2}$	264 59 $\frac{1}{2}$	66	10	☉ and ☉
21	11 42 20	23 46 $\frac{1}{2}$	18 28 U	116 34 37	37 31 $\frac{1}{2}$	266 13 $\frac{1}{2}$		8	☉ and ☉
23	4 57 23		35 20 $\frac{1}{2}$ L	31 17 33 +		263 58 $\frac{1}{2}$	66 $\frac{1}{2}$	6	☉ and Re- gulus
	5 8 45 $\frac{1}{2}$		35 6 $\frac{1}{2}$ L	48 56 16 +		263 40 $\frac{1}{2}$	66 $\frac{1}{2}$	6	☉ and Alde- baran
27	5 58 31		37 25 L	22 2 24 +		257 46	66 $\frac{1}{2}$	6	☉ and Re- gulus
	6 15 9		40 0 $\frac{1}{2}$ L	31 57 59 +		258 17	66 $\frac{1}{2}$	6	☉ and Spica ♋
28		15 47	9 40 $\frac{1}{2}$ U	153 34 37	32 27 $\frac{1}{2}$	257 49 $\frac{1}{2}$		7	☉ and ☉
March 1		22 39 $\frac{1}{2}$	15 34 $\frac{1}{2}$ U	140 26 53	31 22	157 58 $\frac{1}{2}$		10	☉ and ☉
2		21 27 $\frac{1}{2}$	29 29 $\frac{1}{2}$ U	127 28 42	30 39 $\frac{1}{2}$	258 18		10	☉ and ☉
3		17 25	46 7 $\frac{1}{2}$ U	114 25 45	30 6 $\frac{1}{2}$	257 69 $\frac{1}{2}$	74	10	☉ and ☉
4		28 18 $\frac{1}{2}$	48 33 $\frac{1}{2}$ U	100 49 15	29 45 $\frac{1}{2}$	259 10		10	☉ and ☉
5	5 43 48	55 12 $\frac{1}{2}$	32 50 $\frac{1}{2}$ U	86 35 42 +		259 6		9	☉ and ☉
6		45 48 $\frac{1}{2}$	56 33 $\frac{1}{2}$ U	73 36 42	28 28 $\frac{1}{2}$	258 3 $\frac{1}{2}$		8	☉ and ☉
7	6 13 17 $\frac{1}{2}$	57 28 $\frac{1}{2}$	55 57 $\frac{1}{2}$ U	59 53 15 +		256 28 $\frac{1}{2}$		8	☉ and ☉
8		16 25 $\frac{1}{2}$	63 20 $\frac{1}{2}$ L	47 38 18	27 5 $\frac{1}{2}$	255 0		10	☉ and ☉
16	11 38 51	35 4 $\frac{1}{2}$	50 46 U	41 7 19	27 7	249 57 $\frac{1}{2}$		6	☉ and ☉
17		27 16 $\frac{1}{2}$	48 53 $\frac{1}{2}$ U	52 47 59	26 38 $\frac{1}{2}$	248 51 $\frac{1}{2}$	76	10	☉ and ☉ Cloudy
18		39 7 $\frac{1}{2}$	45 7 $\frac{1}{2}$ U	63 31 41	26 0 $\frac{1}{2}$	248 52 $\frac{1}{2}$		8	☉ and ☉
19	11 23 32	40 6 $\frac{1}{2}$	39 21 $\frac{1}{2}$ U	74 32 4	24 41 $\frac{1}{2}$	247 57 $\frac{1}{2}$	76 $\frac{1}{2}$	4	☉ and ☉ Cloudy
		35 25 $\frac{1}{2}$	42 1 $\frac{1}{2}$ U	74 37 46	24 41	248 2 $\frac{1}{2}$	76 $\frac{1}{2}$	10	☉ and ☉
21	11 40 17	38 51 $\frac{1}{2}$	27 27 U	96 32 11	20 48 $\frac{1}{2}$	246 16 $\frac{1}{2}$		6	☉ and ☉
			30 12 $\frac{1}{2}$ U	96 37 3	20 48	246 8 $\frac{1}{2}$		6	☉ and ☉
22	11 37 20 $\frac{1}{2}$	40 39 $\frac{1}{2}$	17 54 $\frac{1}{2}$ U	107 36 0	19 13	245 18	75 $\frac{1}{2}$	10	☉ and ☉
24		22 37 $\frac{1}{2}$	16 35 $\frac{1}{2}$ U	130 57 55	16 55 $\frac{1}{2}$		77	7	☉ and ☉ Back Obs
There seems to be something amiss in these last observations they are the first back observations that I have made which did not agree nearly with the others									
28	19 21 46 $\frac{1}{2}$		57 29 I	44 52 37 +		237 28 $\frac{1}{2}$	79	6	☉ and Re- gulus
	19 40 38		62 2 $\frac{1}{2}$ L	54 41 21 +		237 29	79	7	☉ and An- tares
30		17 42 $\frac{1}{2}$	17 22 $\frac{1}{2}$ U	144 23 26	9 18 $\frac{1}{2}$	232 23	80	10	☉ and ☉ Back Obs

1774.	Time by Watch K.		Altitude of the ☉'s L. L. or *.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.	
	H	"									
4 March 31.			25 2 $\frac{1}{2}$	23 53 U.	130 31 5	9 27 $\frac{1}{2}$	230 8	80 $\frac{1}{2}$	8	☉ and ☉: Back Obs.	
2 April 1.			20 26 $\frac{1}{2}$	41 49 $\frac{1}{2}$ U.	117 2 1	9 28 $\frac{1}{2}$	228 42	79 $\frac{1}{2}$	10	☉ and ☉.	
6 — 2.			17 23 $\frac{1}{2}$	58 8 $\frac{1}{2}$ U.	103 33 1	9 31 $\frac{1}{2}$	227 15 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
10 — 3.			20 8 $\frac{1}{2}$	68 37 $\frac{1}{2}$ U.	90 6 32	9 32 $\frac{1}{2}$	225 20 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
8 — 5.			41 57 $\frac{1}{2}$	74 11 $\frac{1}{2}$ U.	63 20 16	9 20 $\frac{1}{2}$	222 11 $\frac{1}{2}$	82	10	☉ and ☉.	
4 — 6.			16 54 $\frac{1}{2}$	67 21 $\frac{1}{2}$ L.	51 1 16	9 38	221 26 $\frac{1}{2}$	77 $\frac{1}{2}$	10	☉ and ☉.	
2 — 15.	14	2 41	31 9 $\frac{1}{2}$	57 52 $\frac{1}{2}$ U.	44 51 38	13 53 $\frac{1}{2}$	217 2 $\frac{1}{2}$	82 $\frac{1}{2}$	5	☉ and ☉.	
10 — 17.			38 21 $\frac{1}{2}$	49 32 $\frac{1}{2}$ U.	66 44 16	14 28 $\frac{1}{2}$	215 14 $\frac{1}{2}$		6	☉ and ☉.	
	14	47 10 $\frac{1}{2}$	22 43 $\frac{1}{2}$	56 46	67 0 20	14 29 $\frac{1}{2}$	215 8		8	☉ and ☉.	
8 — 18.	13	40 38	37 35 $\frac{1}{2}$	42 8 $\frac{1}{2}$ U.	77 46 1	15 5 $\frac{1}{2}$	214 18		10	☉ and ☉.	
8 — 19.			25 15 $\frac{1}{2}$	43 41 $\frac{1}{2}$ U.	89 8 52	15 41 $\frac{1}{2}$	213 14 $\frac{1}{2}$	81 $\frac{1}{2}$	10	☉ and ☉.	
10 May 15.	15	3 23	20 38 $\frac{1}{2}$	53 22 $\frac{1}{2}$ L.	48 10 56	16 42 $\frac{1}{2}$	209 9 $\frac{1}{2}$	83	6	☉ & ☉	
8 — 16.	14	9 41	31 27 $\frac{1}{2}$		58 58 27	16 42 $\frac{1}{2}$	209 20 $\frac{1}{2}$	84 $\frac{1}{2}$	6	☉ & ☉	
										☉ and Regul.	
	17	57 50		37 55 $\frac{1}{2}$ L.	31 32 16	16 42 $\frac{1}{2}$		81	3		
8 — 17.	15	19 56	17 1 $\frac{1}{2}$		70 20 34	16 42 $\frac{1}{2}$	209 38 $\frac{1}{2}$	83	8	☉ & ☉	
8 — 18.	18	24 23 $\frac{1}{2}$		52 23 $\frac{1}{2}$ L.	60 36 18	16 42 $\frac{1}{2}$	209 37 $\frac{1}{2}$	81	6	☉ and Spica	
4 — 19.	15	6 38 $\frac{1}{2}$	19 43 $\frac{1}{2}$		93 14 3	16 42 $\frac{1}{2}$	209 17	81 $\frac{1}{2}$	10	☉ & ☉	
										☉ and Spica	
	18	39 20		59 19 $\frac{1}{2}$ L.	47 57 3	16 42 $\frac{1}{2}$	209 43 $\frac{1}{2}$	80 $\frac{1}{2}$	6		
2 — 20.	15	1 35	20 43 $\frac{1}{2}$		105 9 5	16 42 $\frac{1}{2}$	208 27 $\frac{1}{2}$	82 $\frac{1}{2}$	3	☉ & ☉	
	15	14 56 $\frac{1}{2}$	17 56 $\frac{1}{2}$		105 13 12	16 42 $\frac{1}{2}$	208 38 $\frac{1}{2}$	82 $\frac{1}{2}$	5	☉ & ☉	
										☉ and Spica	
	17	42 53			35 19 4	16 42 $\frac{1}{2}$	208 47 $\frac{1}{2}$	80 $\frac{1}{2}$	5		
6 — 21.	15	15 51	17 44 $\frac{1}{2}$		117 32 13	17 42 $\frac{1}{2}$	208 57 $\frac{1}{2}$	83	8	☉ & ☉	
										☉ and Spica	
	17	48 25 $\frac{1}{2}$			22 5 6	17 42 $\frac{1}{2}$	208 31 $\frac{1}{2}$	81 $\frac{1}{2}$	9		
10 — 29.	4	16 13 $\frac{1}{2}$	16 17 $\frac{1}{2}$	72 0 $\frac{1}{2}$ U.	57 5 28	16 45 $\frac{1}{2}$	208 22 $\frac{1}{2}$	75	10	☉ and Antares.	
										☉ & ☉: Back Obs.	
8 — 30.			48 6 $\frac{1}{2}$	26 57 $\frac{1}{2}$ U.	123 15 49	16 45 $\frac{1}{2}$	107 59 $\frac{1}{2}$	78	10		
			55 48 $\frac{1}{2}$	34 18 $\frac{1}{2}$ U.	109 51 16	16 45 $\frac{1}{2}$	207 57 $\frac{1}{2}$	79 $\frac{1}{2}$	10	☉ & ☉	
8 — 31.			58 51 $\frac{1}{2}$	43 34 $\frac{1}{2}$ U.	96 55 29	16 45 $\frac{1}{2}$	207 50 $\frac{1}{2}$	80	10	☉ & ☉	
4 June 1.			68 31	47 30 $\frac{1}{2}$ U.	84 17 45	16 45 $\frac{1}{2}$	208 10 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ & ☉	
										☉ & ☉	
2 — 2.	7	46 25		64 54 U.	72 22 55	16 45 $\frac{1}{2}$	208 18 $\frac{1}{2}$	78 $\frac{1}{2}$	2	☉ & ☉	
	8	2 16		61 52 $\frac{1}{2}$ U.	72 18 20	16 45 $\frac{1}{2}$	208 18 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ & ☉	
2 — 3.				54 35 $\frac{1}{2}$ U.	60 9 35	16 45 $\frac{1}{2}$	208 12 $\frac{1}{2}$	81	10	☉ & ☉	
6 — 4.	8	12 3	30 34 $\frac{1}{2}$	65 30 $\frac{1}{2}$ L.	48 52 28	16 44 $\frac{1}{2}$	207 22 $\frac{1}{2}$	82 $\frac{1}{2}$	10	☉ and ☉.	
8 — 13.	15	41 33	20 12 $\frac{1}{2}$	52 22 L.	41 15 45	18 46 $\frac{1}{2}$	197 49 $\frac{1}{2}$	77 $\frac{1}{2}$	3	☉ & ☉	
										☉ & ☉	
	15	57 57	17 0 $\frac{1}{2}$	50 51 L.	41 20 18	18 46 $\frac{1}{2}$	197 44 $\frac{1}{2}$	77 $\frac{1}{2}$	8		
8 — 14.	2	49 17	30 45 $\frac{1}{2}$	54 54 $\frac{1}{2}$ L.	52 12 35		197 50	76 $\frac{1}{2}$	10	☉ and ☉.	

* These are double altitudes of the ☉'s L. L. taken with Hadley's Sextant from a quicksilver horizon.

1774.	Time by Watch K	Altitude of the ☉ or ☾ or *	Moon's Altitude	Distance of ☉ or ☾ from ☉ or ☾ Star	Latitude of the Ship S	Longitude East of Greenwich	Thermon	No of Obs	Objects
H	°					°			
June 14	18 23 13	69 5½	38 48½ L	64 7 14 +		198 3	75½	10	☉ and Spica ☿
15	14 43 8	32 4½	51 34½ U	63 31 56 +		197 51	75	10	☉ and ☉
	18 38 33½	72 55½	46 36½ L	51 43 42 +		197 50	74½	10	☉ and Spica ☿
16	14 40 14	33 0½	45 6½ U	75 6 44 +		197 44	75½	10	☉ and ☉
	18 31 52½	72 14½	58 35½ L	39 13 35 +		197 51½	74½	8	☉ and Spica ☿
17	15 14 50	28 7½	43 21½ U	87 13 6	18 5	196 5½	74½	6	☉ and ☉ Doll Q
	15 25 51	26 8½	45 41 U	87 17 40	18 5	195 38	74½	6	☉ and ☉ Rams Q
	18 48 3	75 21½	66 37½ L	26 18 15 +		195 55½	73	7	☉ and Spica ☿
19	16 23 46	27 15½	37 37½ U	112 20 27	18 27½	192 5	76	7	☉ and ☉ Very hazy
	18 55 53	36 41½	70 46½ U	45 24 41 +		192 28	75	10	☉ and An tares
20	17 5 49	9 56½	34 53½ U	126 5 46	18 59	190 30½	76½	10	☉ and ☉ Back Obs
21	19 51 56	80 56½	60 47½ U	31 20 0 +		190 33	79	6	☉ and Spica ☿
	20 3 47	51 46	63 29½ U	17 53 2 +		190 10	79	6	☉ and An tares
22	22 31 19	48 55½	83 7½ U	47 23 28 +		189 41	76	6	☉ and Spica ☿
	23 5 31	36 32½	88 6 U	53 40 45 +		189 11	76	6	☉ and ☉ Aquilæ
23	7 54 53	79 57½	31 46½ L	61 35 21 +		188 16	76½	10	☉ and Spi ca
26	8 28 13½	12 10½	19 45½ U	140 34 41	20 15	185 46	74½	9	☉ and ☉ Back Obs
27	8 54 49½	17 21½	25 9 U	126 58 44	20 15	184 50		10	☉ and ☉ Ditto
28		18 18½	34 30½ U	113 59 51	20 13	185 7½	74½	10	☉ and ☉
		33 3½	15 29½ U	113 22 18	20 12	185 2½	77	10	☉ and ☉
29	3 36 41	27 24	72 25½ L	61 30 17 +		185 42½	74½	6	☉ and ☉ Aquilæ
July 1	17 19 35	21 51½	53 53½ U	77 22 35	20 0½	182 4½	72	8	☉ and ☉ Doll Q
	7 29 28	23 38½	52 13½ U	77 20 54	20 0½	182 21	72	10	☉ and ☉ Rams Q
2	4 14 4½	69 16½	47 11 L	63 38 34 +		181 49½	71	8	☉ and Fo malhaut
	6 54 19	16 45	59 47 U	67 0 37	19 45	181 46½	72	6	☉ and ☉ Doll Q

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
5 July 2.	7 1 39	18 9½	59 17½ U.	66 29 24	19 45	181 59½	72	6	☿ and ☉: Ramsf. Q.
	8 13 1	31 5½	50 28½ U.	65 41 47	19 45½	182 18½	72½	6	☿ and ☉: Mr. Clerke's Q.
☉ — 3.	7 11 2	19 29½	56 54½ L.	54 42 7	19 58½	181 49½	75½	6	☿ and ☉: Dol. Q.
	7 16 50	20 35½	56 49½ L.	54 40 48	19 58½	181 47½	75½	6	☿ and ☉: Ramsf. Q.
	8 31 36	33 40½	51 46½ U.	54 23 19	20 1	182 5½	75½	6	☿ and ☉: Mr. Clerke's Q.
☿ — 4.	6 38 58½	12 4½	48 50 L.	43 43 7	20 34½	180 42½	75	6	☿ and ☉: Dol. Q.
	6 46 46	13 36½	49 40 L.	43 42 8½	20 34½	181 3½	75	6	☿ and ☉: Ramsf. Q.
☿ — 13.		28 49½	65 9½ L.	46 57 35	16 20½	173 10½	76½	6	☿ and ☉: Dol. Q.
		27 22½	65 0½ L.	47 0 10	16 20½	172 51½	76½	6	☿ and ☉: Ramsf. Q.
	6 12 8	76 5½	34 15½ L.	41 38 58 +		173 35	75½	8	☿ and Spica ♉.
☿ — 14.	14 34 41	33 8½	65 20½ U.	58 40 22	15 33	172 18	77½	6	☿ and ☉: Dol. Q.
	14 41 13½	31 56½	66 13½ U.	58 42 21	15 33	172 12	77½	4	☿ and ☉: Ramsf. Q.
☿ — 15.	15 21 13½	25 37½	67 58½ U.	70 57 24	15 9½	170 55½	79	6	☿ and ☉: Dol. Q.
	15 26 55	24 29½	68 58 U.	70 59 20	15 9½	170 51½	79	4	☿ and ☉: Ramsf. Q.
	18 45 53	64 26½	53 21½ L.	61 53 34 +		171 14½	78½	8	☿ and An- tares.
☿ — 20.	18 48 51	66 20	58 14½ U.	55 37 59 +		168 36	74½	8	☿ and Spica ♉.
	19 3 46	17 28½	61 45 U.	46 50 50 +		168 2½	74½	8	☿ and Aquilæ.
☿ — 21.	20 49 42	36 39½ T.	49 53½ T.	71 33 5 +	16 25½	167 40½	74	12	☿ and Spica ♉.
☿ — 22.	18 56 16			40 48 55 +	16 25½	168 25	75	10	☿ and An- tares.
☿ — 23.	18 39 1	67 46½ T.	14 29½ T.	55 56 46 +	16 33½	168 17½	77½	7	☿ and An- tares.
☿ — 26.		22 27½	14 12½ U.	131 44 56	17 53½	169 33½	74	10	☿ and ☉: Back Obs.
☿ — 27.		22 25½	23 48½ U.	119 11 55	18 25½	169 31½	72½	4	☉ and ☉: ☿ and ☉:
☿ — 28.	7 37 38	16 40	38 57½ U.	107 13 53	18 27	170 3	70½	8	Dol. Q.

ASTRONOMICAL OBSERVATIONS

1774	Time by Watch &		Altitude of the ☉ or L. L.	Moon's Altitude.	Distance Moon's L. from Sun or Star	Latitude of the Ship S	Longitude East of Greenwich	Thermom.	No. of Obs.	Object
	H	M								
14 July 28	7 45	28	18 19	37 21 U	107 11 43	18 27	170 13	70 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
5 — 30	7 40	48	17 10 $\frac{1}{2}$	51 37 U	83 53 59	18 23	168 45 $\frac{1}{2}$	73 $\frac{1}{2}$	6	{ ☉ and ☉ Dol Q
	7 46	45	18 26 $\frac{1}{2}$	50 43 $\frac{1}{2}$ U	83 54 14	18 23	170 14 $\frac{1}{2}$	73 $\frac{1}{2}$	3	{ ☉ and ☉ Ramsf Q
	7 59	22	21 1 $\frac{1}{2}$	48 39 $\frac{1}{2}$ U	83 51 14	18 23	169 43	73 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
	9 56	20	42 46 $\frac{1}{2}$	25 53 $\frac{1}{2}$ U	83 14 8	18 22	168 38	76	6	{ ☉ and ☉ Dol Q
0 — 31	8 37	10	28 32 $\frac{1}{2}$	47 56 $\frac{1}{2}$ U	72 25 51	18 24 $\frac{1}{2}$	168 41 $\frac{1}{2}$	75 $\frac{1}{2}$	8	{ ☉ and ☉ Dol Q
	8 42	55	29 39 $\frac{1}{2}$	47 5 $\frac{1}{2}$ U	72 26 8	18 24 $\frac{1}{2}$	169 81 $\frac{1}{2}$	75 $\frac{1}{2}$	8	{ ☉ and ☉ Ramsf Q
	11 20	15	52 2 $\frac{1}{2}$	16 49 $\frac{1}{2}$ U	71 36 55	18 30 $\frac{1}{2}$	169 43	74	3	{ ☉ and ☉ Ramsf Q
	11 23	6 $\frac{1}{2}$	53 13 $\frac{1}{2}$	16 15 U	71 34 33	18 30 $\frac{1}{2}$	169 2 $\frac{1}{2}$	74	3	{ ☉ and ☉ Dol Q
<p>The disagreement in the results of Observations made this day and the day before, with different Quadrants, is extraordinary indeed I not is it the first time that it has happened I was determined <i>now</i>, if possible, to find out the cause of it; the fineness of the weather, the stillness of the ship, and every other circumstance whatsoever conspiring to give me an advantageous opportunity Accordingly, before the two last Observations of each day, the Quadrants were examined and adjusted in every particular, with the utmost care, and I am as certain as it is possible to be, that there was nothing amiss in either of them</p>										
3 Aug. 1	8 51	25 $\frac{1}{2}$	31 3	50 14 $\frac{1}{2}$ U	61 18 47	18 45 $\frac{1}{2}$	168 50 $\frac{1}{2}$	76	8	{ ☉ and ☉ Dol Q
	8 58	4	32 19 $\frac{1}{2}$	49 25 $\frac{1}{2}$ U	61 18 17	18 45	169 24 $\frac{1}{2}$	76	8	{ ☉ and ☉ Ramsf Q
8 — 2	8 42	38	29 52	52 30 $\frac{1}{2}$ L	50 21 34	18 38	169 10 $\frac{1}{2}$	73	8	{ ☉ and ☉ Dol Q
	8 51	40	31 36 $\frac{1}{2}$	52 2 $\frac{1}{2}$ L	50 20 12	18 38	169 26 $\frac{1}{2}$	73	8	{ ☉ and ☉ Ramsf Q
8 — 3	5 35	0	45 54 $\frac{1}{2}$	25 52 $\frac{1}{2}$ L	24 19 17 $\frac{1}{2}$	18 43 $\frac{1}{2}$	168 46 $\frac{1}{2}$	70 $\frac{1}{2}$	6	{ ☉ and Al debaran
	8 10	35	23 24 $\frac{1}{2}$	49 34 $\frac{1}{2}$ L	39 31 4	18 43 $\frac{1}{2}$	169 8 $\frac{1}{2}$	74 $\frac{1}{2}$	6	{ ☉ and ☉ Dol Q
	8 18	10	24 57 $\frac{1}{2}$	50 5 $\frac{1}{2}$ L	39 29 22	18 43 $\frac{1}{2}$	169 22 $\frac{1}{2}$	74 $\frac{1}{2}$	6	{ ☉ and ☉ Ramsf Q
0 — 21	21 54	29	38 55 $\frac{1}{2}$	62 1 $\frac{1}{2}$ T	79 40 45 $\frac{1}{2}$	19 41	170 5 $\frac{1}{2}$	69 $\frac{1}{2}$	6	{ ☉ and An tares
11 — 25	3 42	7	41 31 $\frac{1}{2}$ T	67 53 $\frac{1}{2}$ L	41 59 11 $\frac{1}{2}$	15 2	166 44 $\frac{1}{2}$		8	{ ☉ and Al debaran

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H	°	°	°	°	°			
4 Aug. 25.	7 52 49	21 39 $\frac{1}{2}$		126 8 35	15 6 $\frac{1}{2}$		76 $\frac{1}{2}$	6	☉ and ☉: Back Obs.
2 — 26.	4 15 14	48 24 T.	64 35 $\frac{1}{2}$ L.	28 54 45 $\frac{1}{2}$	14 47 $\frac{1}{2}$	167 19 $\frac{1}{2}$	74	8	☉ and Al- debaran.
	4 28 50	26 51 $\frac{1}{2}$ T.	64 14 $\frac{1}{2}$ L.	52 7 5 $\frac{1}{2}$	14 47 $\frac{1}{2}$	166 33 $\frac{1}{2}$	74	8	☉ and α Pegasi.
	7 25 12	15 24 $\frac{1}{2}$ T.	37 22 $\frac{1}{2}$ T.	114 28 48	14 45	167 20 $\frac{1}{2}$	74 $\frac{1}{2}$	10	☉ and ☉.
5 — 27.	4 47 29	12 9 $\frac{1}{2}$ T.	61 21 $\frac{1}{2}$ L.	60 32 6 $\frac{1}{2}$	14 47	166 31 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and Pol- lux.
	4 57 57	19 43 $\frac{1}{2}$ T.	61 28 $\frac{1}{2}$ L.	63 42 58 $\frac{1}{2}$	14 47	167 44 $\frac{1}{2}$	74 $\frac{1}{2}$	6	☉ and α Pegasi.
	7 43 11	19 22 $\frac{1}{2}$	41 30 $\frac{1}{2}$ U.	102 52 52	14 47 $\frac{1}{2}$	167 12 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	7 49 39	20 52	40 17 $\frac{1}{2}$ U.	102 51 11	14 47 $\frac{1}{2}$	167 21 $\frac{1}{2}$	78 $\frac{1}{2}$	6	☉ and ☉: Ramf. Q.
6 — 28.	7 50 37	21 7 $\frac{1}{2}$	47 8 $\frac{1}{2}$ U.	91 34 31	14 57 $\frac{1}{2}$	166 47 $\frac{1}{2}$	78	8	☉ and ☉: Dol. Q.
	7 56 58 $\frac{1}{2}$	22 37 $\frac{1}{2}$	46 2 $\frac{1}{2}$ U.	91 33 5	14 57 $\frac{1}{2}$	166 51 $\frac{1}{2}$	78	8	☉ and ☉: Ramf. Q.
7 — 29.	10 48 18	58 8 $\frac{1}{2}$	20 39 $\frac{1}{2}$ U.	79 37 2 $\frac{1}{2}$		165 44 $\frac{1}{2}$	79	6	☉ and ☉: Dol. Q.
	10 55 9	59 11	19 12 $\frac{1}{2}$ U.	79 35 43 $\frac{1}{2}$		166 26 $\frac{1}{2}$	79	6	☉ and ☉: Ramf. Q.
8 — 30.	4 36 56	52 42 $\frac{1}{2}$	36 57 T.	20 7 22 $\frac{1}{2}$	15 44	167 12 $\frac{1}{2}$	75 $\frac{1}{2}$	6	☉ and Al- debaran.
	11 33 47	63 53 $\frac{1}{2}$	20 18 $\frac{1}{2}$ U.	68 26 3 $\frac{1}{2}$		166 23	77	3	☉ and ☉: Dol. Q.
	11 45 8	64 38 $\frac{1}{2}$	18 55 U.	68 22 53 $\frac{1}{2}$		166 50 $\frac{1}{2}$	77	1	☉ and ☉: Ramf. Q.
9 — 31.	4 46 33	53 56 $\frac{1}{2}$	29 15 $\frac{1}{2}$ L.	32 3 26 $\frac{1}{2}$		166 33		7	☉ and Al- debaran.
	9 52 17	47 30 $\frac{1}{2}$	47 22 $\frac{1}{2}$ U.	57 58 45	16 27 $\frac{1}{2}$	165 45	76 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	9 57 43	48 33 $\frac{1}{2}$	46 35 $\frac{1}{2}$ U.	57 58 32	16 27 $\frac{1}{2}$	166 29 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉: Ramf. Q.
	10 2 33	49 31 $\frac{1}{2}$	45 55 $\frac{1}{2}$ U.	57 57 0	16 27 $\frac{1}{2}$	166 11 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
10 Sept. 13.	15 13 13	40 40 $\frac{1}{2}$	48 7 $\frac{1}{2}$ U.	89 15 32	19 47	164 13 $\frac{1}{2}$	77	8	☉ and ☉: ditto.
	15 20 24 $\frac{1}{2}$	39 6 $\frac{1}{2}$	49 48 $\frac{1}{2}$ U.	89 18 50	19 47	164 0 $\frac{1}{2}$	77	10	☉ and ☉: Ramf. Q.
11 — 14.	16 26 58	24 44 $\frac{1}{2}$	51 26 $\frac{1}{2}$ U.	103 5 58	19 18	163 46	79	6	☉ and ☉: Dol. Q.
	16 33 6	23 21 $\frac{1}{2}$	52 52 $\frac{1}{2}$ U.	103 9 15	19 18	163 24 $\frac{1}{2}$	79	3	☉ and ☉: Ramf. Q.

1774-	Time by Watch K	Altitude of the ☉ L L	Moon's Altitude	Distance of the ☉ & ☾ from ☉ or *	Latitude of the Ship S	Longitude East of Greenwich	Baromet	No of Obs	Object
	H								
24 Sept 15	15 20 11	39 48 $\frac{1}{2}$	23 1 $\frac{1}{2}$ U	116 4 46	19 18	163 33 $\frac{1}{2}$	83	4	☉ and ☾ Dol Q
	15 25 37	38 36 $\frac{1}{2}$	24 13 $\frac{1}{2}$ U	116 6 11	19 17 $\frac{1}{2}$	163 53 $\frac{1}{2}$	83	7	☉ and ☾ Rams Q
	15 30 48	37 27 $\frac{1}{2}$	25 23 $\frac{1}{2}$ U	116 9 2	19 17 $\frac{1}{2}$	163 43 $\frac{1}{2}$	83	5	☉ and ☾ Dol Q
— 19	0 42 39	15 47 $\frac{1}{2}$	68 44 L	57 6 25 $\frac{1}{2}$		166 6 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☾ Aquila
	1 3 48	43 12 $\frac{1}{2}$ T	65 8 $\frac{1}{2}$ L	45 20 47 $\frac{1}{2}$	20 25 $\frac{1}{2}$	165 33 $\frac{1}{2}$	72 $\frac{1}{2}$	6	☉ and ☾ Arietis
— 20	0 40 52	14 54 $\frac{1}{2}$	68 47 $\frac{1}{2}$ L	69 51 9 $\frac{1}{2}$		166 20 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☾ Aquila
	1 0 6	24 24	68 3 L	62 4 27 $\frac{1}{2}$		165 37	71 $\frac{1}{2}$	6	☉ and Al debaran
— 21	22 15 42	44 36 $\frac{1}{2}$	38 3 $\frac{1}{2}$ L	81 20 18 $\frac{1}{2}$		166 15 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☾ Aquila
	4 39 39	14 22 $\frac{1}{2}$	36 12 $\frac{1}{2}$ U	50 52 43 $\frac{1}{2}$		166 29 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and ☾ mulhaut
	4 52 29	52 38 $\frac{1}{2}$	33 30 $\frac{1}{2}$ U	47 7 25 $\frac{1}{2}$		166 46 $\frac{1}{2}$	71 $\frac{1}{2}$	6	☉ and Al debaran
— 22	2 10 29	39 2	58 52 $\frac{1}{2}$ L	34 52 1 $\frac{1}{2}$		166 59 $\frac{1}{2}$	70	4	☉ and Al debaran
	2 38 19 $\frac{1}{2}$	43 22 $\frac{1}{2}$	57 57 $\frac{1}{2}$ L	34 43 46 $\frac{1}{2}$		167 10 $\frac{1}{2}$	70	6	☉ and do cloudy
	2 54 24	35 33	56 58 L	61 32 1 $\frac{1}{2}$			70	1	☉ and Fo mulhaut
— 23	2 4 36	38 54 $\frac{1}{2}$	53 38 $\frac{1}{2}$ L	22 2 3 $\frac{1}{2}$		168 1 $\frac{1}{2}$	71	6	☉ and Al debaran
	2 17 43 $\frac{1}{2}$	42 30 $\frac{1}{2}$	54 17 $\frac{1}{2}$ L	73 31 35 $\frac{1}{2}$		168 17	71	6	☉ and Fo mulhaut
	21 37 $\frac{1}{2}$	14 9 $\frac{1}{2}$ U	133 50 39	21 57 $\frac{1}{2}$	167 8 $\frac{1}{2}$		6	☉ and ☾ Back Obs	
— 24	23 21 12	45 25 $\frac{1}{2}$	17 31 $\frac{1}{2}$ L	69 0 43 $\frac{1}{2}$		167 53 $\frac{1}{2}$	72	10	☉ and ☾ Pe gnū Hazy
— 28	9 6 8	42 16	38 27 $\frac{1}{2}$ U	77 51 28 $\frac{1}{2}$		167 48 $\frac{1}{2}$	78	6	☉ and ☾ Dol Q
	9 11 47 $\frac{1}{2}$	43 28	37 38 $\frac{1}{2}$ U	77 49 50 $\frac{1}{2}$		167 47 $\frac{1}{2}$	73	6	☉ and ☾ Rams Q
— 29	3 56 13 $\frac{1}{2}$	51 34 $\frac{1}{2}$	22 37 $\frac{1}{2}$ L	51 21 41 $\frac{1}{2}$		167 17 $\frac{1}{2}$	69 $\frac{1}{2}$	6	☉ and Al debaran
	7 41 35	23 23 $\frac{1}{2}$	50 30 U	67 8 45 $\frac{1}{2}$		167 13 $\frac{1}{2}$	72	6	☉ and ☾ Dol Q
	7 47 38	24 46 $\frac{1}{2}$	50 28 $\frac{1}{2}$ U	67 8 3 $\frac{1}{2}$		167 36	72	6	☉ and ☾ Rams Q

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
4 Sept. 29.	11 15 59	66 52 $\frac{1}{2}$	25 29 $\frac{1}{2}$ U.	66 10 10 +		167 35 $\frac{1}{2}$	73	5	☉ and ☉: Bird's Q.
	11 29 54	68 22 $\frac{1}{2}$	22 47 $\frac{1}{2}$ U.	66 3 25 +		167 10 $\frac{1}{2}$	73	6	☉ and ☉: Mr. Smith's Q.
	11 35 1	68 49 $\frac{1}{2}$	22 48 $\frac{1}{2}$ U.	66 2 13 +		167 17 $\frac{1}{2}$	73	6	☉ and ☉: Mr. Clarke's.
5 Oct. 1.	7 12 36	18 52	44 36 L.	44 40 59	23 17 $\frac{1}{2}$	169 32 $\frac{1}{2}$	66	6	☉ and ☉: Dol. Q.
	7 21 36	20 53 $\frac{1}{2}$	45 52 $\frac{1}{2}$ L.	44 39 24.	23 17 $\frac{1}{2}$	169 58 $\frac{1}{2}$	66	6	☉ and ☉: Ramsf. Q.
5 — 8.	19 0 38	52 44	20 39 $\frac{1}{2}$ L.	70 0 38 +		170 52	63 $\frac{1}{2}$	10	☉ and ☉: Aquilae.
6 — 9.	14 42 50	44 22 $\frac{3}{4}$	76 8 $\frac{1}{2}$ U.	45 28 31	28 55	168 51 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	14 49 26	42 55 $\frac{1}{2}$	76 34 $\frac{3}{4}$ U.	45 30 38	28 55	168 48	62 $\frac{1}{2}$	6	☉ and ☉: Ramsf. Q.
	15 16 15 $\frac{1}{2}$	37 27	75 43 $\frac{3}{4}$ U.	45 39 48	28 55	168 41 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Bird's Q.
	11 7 15 $\frac{1}{2}$	64 13 $\frac{3}{4}$	24 20 U.	57 26 36 +		168 21 $\frac{1}{2}$	63 $\frac{1}{2}$	1	☉ and ☉: Dol. Q.
7 — 10.	16 30 18	22 36 $\frac{1}{2}$	76 41 $\frac{1}{2}$ L.	59 29 37	29 0	168 6 $\frac{1}{2}$		8	☉ and ☉: Ramsf. Q.
8 — 11.	14 51 34	43 48 $\frac{1}{2}$	59 36 $\frac{1}{2}$ U.	71 24 0	29 29	167 37 $\frac{1}{2}$	64 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	14 59 2	42 14 $\frac{3}{4}$	61 5 $\frac{3}{4}$ U.	72 26 45	29 29	167 35 $\frac{1}{2}$	64 $\frac{1}{2}$	8	☉ and ☉: Ramsf. Q.
9 — 12.	15 16 15	38 31 $\frac{1}{2}$	51 58 $\frac{1}{2}$ U.	85 54 47	31 17 $\frac{1}{2}$	167 36	65 $\frac{1}{2}$	8	☉ and ☉: Dol. Q.
	15 25 54	36 26 $\frac{1}{2}$	53 56 $\frac{1}{2}$ U.	85 58 34	31 17 $\frac{1}{2}$	167 29	65 $\frac{1}{2}$	8	☉ and ☉: Ramsf. Q.
11 — 13.	15 46 15	31 34	45 59 U.	99 21 50	33 4 $\frac{1}{2}$	166 18 $\frac{1}{2}$	63	6	☉ and ☉: Dol. Q.
	15 52 37	30 14 $\frac{3}{4}$	47 14 $\frac{1}{2}$ U.	99 24 46	33 4 $\frac{3}{4}$	168 8 $\frac{1}{2}$	63	6	☉ and ☉: Ramsf. Q.
	19 6 19	36 36 $\frac{3}{4}$	73 34 $\frac{3}{4}$ U.	54 49 33 +		168 50 $\frac{1}{2}$	62	6	☉ and ☉: Antares.
	19 22 40	32 51 $\frac{1}{2}$	72 28 $\frac{1}{2}$ U.	50 36 8 +		168 42 $\frac{1}{2}$	62	5	☉ and ☉: Pegasi.
12 — 14	16 31 26	21 17 $\frac{1}{2}$	43 16 $\frac{1}{2}$ U.	112 48 7	34 21	169 29	62 $\frac{1}{2}$	6	☉ and ☉: Dol. Q.
	16 36 14	20 16 $\frac{3}{4}$	44 12 U.	112 49 25	34 21	169 43 $\frac{1}{2}$	62 $\frac{1}{2}$	6	☉ and ☉: Ramsf. Q.
	19 46 20	26 55 $\frac{1}{2}$	69 35 $\frac{3}{4}$ U.	69 0 34 +		170 17	61 $\frac{1}{2}$	6	☉ and ☉: Antares: cloudy.
	19 54 32	36 36 $\frac{3}{4}$	69 27 $\frac{1}{2}$ U.	37 59 37 +		168 57 $\frac{1}{2}$	61 $\frac{1}{2}$	4	☉ and ☉: Pegasi: cloudy.

1774	Time by Watch K	Altitude of the ☉ L L	Moon's Altitude	Distance of the Moon's L. from Sun or Star	Latitude of the Ship S	Longitude Lat of Greenwich	Thermom	No. of Obs	Object
	H								
2 Nov 11	14 18 8 ¹	47 9 ¹ _{TT}	31 35 ¹ U	94 27 10	42 22 ¹ ₈	174 51 ¹ ₈	62	6	☉ and ☉ Dol Q
	14 23 31	46 12 ¹	32 30 ⁴ ₇ U	94 29 10	42 22 ¹ ₈	175 3 ¹ ₈	62	7	☉ and ☉ Ramf Q
5 — 12	15 45 3	31 14 ¹ _T	34 48 ¹ _T U	107 48 49	43 27	175 42 ¹ ₈	64	6	☉ and ☉ Dol Q
	15 50 35	30 13 ¹ _{TT}	35 41 ¹ ₇ U	107 50 51	43 27	175 50 ¹ ₈	64	6	☉ and ☉ Ramf Q
8 Dec 6	6 8 16	58 33 ¹ ₈	33 44 U	45 9 48 +		251 57 ¹ _T	46	6	☉ and ☉ Dol Q
	6 14 9	58 43 ¹ _T	34 33 ¹ _T U	45 12 31 +		251 32	46	6	☉ and ☉ Ramf Q
8 — 7	10 4 26	40 13 ¹ _T	53 17 ¹ ₈ L	46 53 12	53 20 ¹ ₈	252 28 ¹ ₈	48	6	☉ and ☉ Dol Q
	10 7 59	39 11 ¹	53 10 L	46 55 0	53 20 ¹ ₈	252 24 ¹ _T	48	2	☉ and ☉ Ramf Q
6 — 12	6 25 25	58 59 ¹ _{TT}	27 23 ¹ ₇ U	58 52 48 +		254 32	47	6	☉ and ☉ Dol Q
	8 43 40	43 46	12 38 ¹ ₈ U	110 33 15	53 22 ¹ ₈	267 45 ¹ ₈	47	8	☉ and ☉ ditto
	8 52 48 ¹	42 27 ¹	13 51 ¹ ₈ U	110 37 7	53 22 ¹ ₈	268 3 ¹ _T	47	8	☉ and ☉ Ramf Q
		29 23	24 25 ¹ ₈ U	111 15 15	53 22 ¹ _T	268 14 ¹ ₈	46 ¹ _T	4	☉ and ☉ Dol Q
8 — 13	15 41 46	19 20 ¹ _T	24 57 ¹ _T L	52 43 57 +	53 22	268 19	43	10	☉ and Al debaran.
	15 46 22	19 53 T	23 58 ¹ ₈ L	39 54 31 +	53 24	271 11 ¹ _T	43	6	☉ and ditto
1775.									
2 Jan 6	6 53 56	38 29 ¹	40 25 ¹ _{TT} U	52 30 15 +		305 34 ¹ ₈	43	7	☉ and ☉ Ramf Q
	7 2 46 ¹	37 25 ¹ ₈	40 22 ¹ ₇ U	52 33 10 +		305 58 ¹ ₈	43	8	☉ and ☉ Dol Q
5 — 7	5 49 38 ¹	46 15	33 31 ¹ _T U	65 10 50 +		306 55 ¹ _T	43	7	☉ and ☉ Dol Q
	5 57 22	45 23 ¹ ₇	33 35 ¹ U	65 15 15 +		306 23	43	6	☉ and ☉ Ramf Q
O — 8	5 38 52	47 49 ¹ _T	25 14 ¹ ₈ U.	77 47 48 +		308 2 ¹ _T	49	6	☉ and ☉ Dol Q
	5 44 25	47 8 ¹ _{TT}	25 46 ¹ ₈ U	77 50 34 +		307 49 ¹ ₈	49	6	☉ and ☉ Ramf Q
	13 4 23	18 38 ¹ ₈	11 58 ¹ _T U	57 48 4 +		307 58 ¹ _T	45	7	☉ and Al debaran

1775.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of the ☉'s L. from ☉'s or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Object.
	H	°	°	°	°	°			
4 Jan. 25.		16 52 $\frac{1}{2}$	42 55 $\frac{1}{2}$ L.	82 54 27	57 7	329 13	43	6	☉ and ☉ : Dol. Q. Hazy.
	23 17 53	40 47 $\frac{1}{2}$	32 54 $\frac{1}{2}$ U.	81 40 24 +		329 15 $\frac{1}{2}$	42 $\frac{1}{2}$	4	☉ and ☉ : ditto, and very hazy.
	23 32 2	42 17 $\frac{9}{10}$	31 25 $\frac{1}{2}$ U.	81 34 8 +		329 12	42 $\frac{1}{2}$	4	☉ and ☉ : Ramf. Q. very hazy.
Repeated a day, and rejected 360 ^b of Longitude.									
8 Feb. 17.	9 44 14 $\frac{1}{2}$	19 31 $\frac{1}{2}$ T.	17 30 $\frac{1}{2}$ L.	28 27 10 +	54 23 $\frac{1}{2}$	8 23 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Re- gulus : Dol. Q.
	9 54 51	20 8 $\frac{1}{2}$ T.	18 45 $\frac{1}{2}$ L.	28 29 52 +	54 23 $\frac{1}{2}$	9 17 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Re- gulus : Ramf. Q.
	10 5 18	20 57 $\frac{1}{2}$ T.	19 56 $\frac{1}{2}$ L.	25 55 43 +	54 23 $\frac{1}{2}$	9 40 $\frac{1}{2}$	33 $\frac{1}{2}$	5	☉ and Spica ♀ : Ramf. Q.
	10 13 43	22 0 T.	20 51 $\frac{1}{2}$ L.	25 51 56 +	54 23 $\frac{1}{2}$	9 40 $\frac{1}{2}$	33 $\frac{1}{2}$	6	☉ and Spica ♀ : Dol. Q.
8 — 21.	17 49 43	17 54 $\frac{1}{2}$	40 28 U.	102 40 9 +		21 51 $\frac{1}{2}$	35	1	☉ and ☉ : Dol. Q. very cloudy.
	18 16 19	21 43	37 44 U.	102 28 39	55 4	21 22 $\frac{1}{2}$	35	3	☉ and ☉ : Dol. Q. very cloudy.
	18 21 48 $\frac{1}{2}$	22 24 $\frac{9}{10}$	37 7 U.	102 26 50	55 4	21 27 $\frac{1}{2}$	35	2	☉ and ☉ : Ramf. Q. very cloudy.
14 Feb. 23.	19 22 52	43 23 $\frac{1}{2}$	45 36 $\frac{1}{2}$ U.	76 15 51	53 5 $\frac{1}{2}$	25 50	38	8	☉ and ☉ : cloudy.
8 — 24.	19 39 27 $\frac{1}{2}$	37 36 $\frac{1}{2}$	51 42 $\frac{1}{2}$ U.	62 47 25 +		28 21	38 $\frac{1}{2}$	6	☉ and ☉ : Dol. Q. hazy.
	19 49 39	39 52 $\frac{1}{2}$	50 37 $\frac{1}{2}$ U.	62 41 18 +		27 32 $\frac{1}{2}$	38 $\frac{1}{2}$	5	☉ and ☉ : Ramf. Q. hazy.
5 — 25.	19 28 31 $\frac{1}{2}$	37 17 $\frac{1}{2}$	57 43 $\frac{1}{2}$ U.	49 8 20	49 32 $\frac{1}{2}$	29 25 $\frac{1}{2}$	42	6	☉ and ☉ : Dol. Q. cloudy.
	19 45 24	39 24 $\frac{1}{2}$	56 39 $\frac{1}{2}$ U.	49 1 57	49 31 $\frac{1}{2}$	29 38 $\frac{1}{2}$	42	6	☉ and ☉ : Ramf. Q. cloudy.
7. March 4.	1 45 5 $\frac{1}{2}$	30 16 $\frac{1}{2}$		34 59 58	43 49 $\frac{1}{2}$		57	3	☉ and ☉ .

1775	Time by Watch K.	Altitude of the ☉ L L	Moon's Altitude	Distance of the ☉ & L. from ☉ or 1*	Latitude of the Ship S	Longitude East of Greenwich	Thermom.	No. of Obs.	Object
	H								
March 6	0 58 42	38 51 $\frac{1}{2}$	33 24 U	59 38 45 +		27 10 $\frac{1}{2}$	54	6	☉ and ☉ Dol ☉
	1 7 35	37 29	33 53 U	59 42 15 +		26 54 $\frac{1}{2}$	54	2	☉ and ☉ Rams ☉
8 — 7	1 28 27 $\frac{1}{2}$	34 28 $\frac{1}{2}$	29 33 $\frac{1}{2}$ U	71 37 8	41 48 $\frac{1}{2}$	26 14 $\frac{1}{2}$	60 $\frac{1}{2}$	2	☉ and ☉ ☉ and Re gulus
14 — 9	6 0 31		26 13 $\frac{1}{2}$ L	61 53 31 +		25 32 $\frac{1}{2}$	55	4	☉ and ☉ ☉ and Dol ☉
8 — 10	1 55 25	31 5 $\frac{1}{2}$	11 52 $\frac{1}{2}$ U	105 19 35	40 50	23 40 $\frac{1}{2}$	52 $\frac{1}{2}$	5	☉ and ☉ ☉ and Rams ☉
	1 58 43	30 30 $\frac{1}{2}$	12 20 $\frac{1}{2}$ U	105 21 15	40 50		52 $\frac{1}{2}$	2	☉ and ☉ ditto
	2 26 6	25 42 $\frac{1}{2}$	16 3 $\frac{1}{2}$ U	105 30 51	40 49 $\frac{1}{2}$	23 47	52 $\frac{1}{2}$	10	☉ and ☉ ☉ and Al debaran Cloudy
	6 15 24		28 53 $\frac{1}{2}$ L	30 15 50	40 45 $\frac{1}{2}$		51	1	☉ and ☉ ☉ and ca ☉
14 — 16	7 54 14	27 31 $\frac{1}{2}$	36 11 $\frac{1}{2}$ L	30 48 45 +		22 18 $\frac{1}{2}$	67	6	☉ and ☉ ☉ and Re gulus
	8 9 18	41 14 $\frac{1}{2}$	38 26 $\frac{1}{2}$ L	23 36 52 +		22 12 $\frac{1}{2}$	67	6	☉ and ☉ ☉ and Spi ca ☉
8 — 17	8 50 54	39 1 $\frac{1}{2}$	40 31 $\frac{1}{2}$ L	17 41 35 +		20 1 $\frac{1}{2}$	67	6	☉ and ☉ ☉ and Re gulus
	8 57 43 $\frac{1}{2}$	42 2 $\frac{1}{2}$	42 33 $\frac{1}{2}$ L	37 10 30 +		21 16	67	2	☉ and ☉ ☉ and Re gulus
May 3		20 4 $\frac{1}{2}$	42 50 $\frac{1}{2}$ U	44 11 4	26 51	6 19 $\frac{1}{2}$	68 $\frac{1}{2}$	8	☉ and ☉ ☉ and Re gulus
	6 22 15	49 37 $\frac{1}{2}$	19 55 $\frac{1}{2}$ L	58 34 25 +		7 31	67 $\frac{1}{2}$	8	☉ and ☉ ☉ and Re gulus
14 — 4	0 30 20	45 30 $\frac{1}{2}$	26 39 $\frac{1}{2}$ U	54 40 13 +		5 52 $\frac{1}{2}$	67	6	☉ and ☉ ☉ and Re gulus
	2 16 56	32 33 $\frac{1}{2}$	40 33 U	55 8 40 +		5 59 $\frac{1}{2}$	67 $\frac{1}{2}$	10	☉ and ☉ ☉ and Re gulus
	6 10 0	49 26 $\frac{1}{2}$	30 44 $\frac{1}{2}$ L	46 28 21 +		6 50	67	7	☉ and ☉ ☉ and Re gulus
0 — 7		25 56 $\frac{1}{2}$	33 26 $\frac{1}{2}$ U	88 20 58	23 16	3 19 $\frac{1}{2}$	66 $\frac{1}{2}$	8	☉ and ☉ ☉ and ☉ ☉ and Spi ca ☉
	4 32 25 $\frac{1}{2}$	10 47	45 13 U	88 40 7 +		3 10 $\frac{1}{2}$	66 $\frac{1}{2}$	8	☉ and ☉ ☉ and Spi ca ☉
	6 17 44	33 28 $\frac{1}{2}$	51 31 $\frac{1}{2}$ L	64 19 30 +		3 11 $\frac{1}{2}$	66	8	☉ and ☉ ☉ and Spi ca ☉
8 — 8	3 30 40 $\frac{1}{2}$	24 57 $\frac{1}{2}$	28 56 $\frac{1}{2}$ U	99 26 10 +		1 50 $\frac{1}{2}$	67 $\frac{1}{2}$	8	☉ and ☉ ☉ and Spi ca ☉
	6 34 35 $\frac{1}{2}$	36 47 $\frac{1}{2}$	55 50 $\frac{1}{2}$ U	52 14 57 +		1 54	66 $\frac{1}{2}$	9	☉ and ☉ ☉ and Spi ca ☉
8 — 9	3 50 44 $\frac{1}{2}$	22 18 $\frac{1}{2}$	24 47 $\frac{1}{2}$ U	110 43 45	20 34 $\frac{1}{2}$	West 0 18 East.	67 $\frac{1}{2}$	8	☉ and ☉ ☉ and Spi ca ☉
	6 35 28 $\frac{1}{2}$	36 39 $\frac{1}{2}$	55 50 $\frac{1}{2}$ U	40 7 2 +		0 37	68 $\frac{1}{2}$	10	☉ and ☉ ☉ and Spi ca ☉
14 — 11	5 15 39	7 33 $\frac{1}{2}$	25 14 $\frac{1}{2}$ U	134 15 48 +		West. 2 54	69 $\frac{1}{2}$	10	☉ and ☉ Back Obs

1775.	Time by Watch K.	Altitude of the ☉ L.	Moon's Altitude.	Distance Moon's L. from Sun's or Star.	Latitude of the Ship S.	Longitude West of Greenwich.	Thermom.	No. of Obs.	Object.
	H	°	°	°	°	°			
4 May 11.	7 33 26	57 11 $\frac{1}{2}$	55 32 $\frac{1}{2}$ U.	39 43 26 †		2 5 $\frac{1}{2}$	69	6	☉ and Re- gulus.
	7 41 21	51 50 $\frac{1}{2}$	57 12 $\frac{1}{2}$ U.	15 20 4 †		1 44 $\frac{1}{2}$	69	6	☉ and Spica ♌.
	7 50 54	15 11 $\frac{1}{2}$	58 47 $\frac{1}{2}$ U.	60 35 46 †		2 11 $\frac{1}{2}$	69	6	☉ and An- tares.
8 — 12.	7 36 50	57 12 $\frac{1}{2}$	47 54 $\frac{1}{2}$ U.	52 55 24 †		2 14	69	6	☉ and Re- gulus.
	7 47 57	15 1 $\frac{1}{2}$	50 25 $\frac{1}{2}$ U.	47 43 4 †		2 27 $\frac{1}{2}$	69	6	☉ and An- tares.
☉ — 14.	10 20 59	83 22 $\frac{1}{2}$	63 5 $\frac{1}{2}$ L.	28 28 30 †		4 20	70 $\frac{1}{2}$	6	☉ and Spica ♌.
☉ — 21.	21 54 41	36 45 $\frac{1}{2}$	48 45 $\frac{1}{2}$ U.	85 36 58 †		7 10 $\frac{1}{2}$	70	6	☉ and ☉ : very cloudy.
☉ — 22.	21 45 30	34 19 $\frac{1}{2}$	63 17 $\frac{1}{2}$ U.	72 36 45	14 43	8 23 $\frac{1}{2}$	73 $\frac{1}{2}$	8	☉ and ☉ : cloudy.
☉ — 23.	20 7 40 $\frac{1}{2}$	13 4 $\frac{1}{2}$	72 48 $\frac{1}{2}$ L.	60 12 5	13 45	9 43 $\frac{1}{2}$	72 $\frac{1}{2}$	10	☉ and ☉.
☉ — 24.	20 31 31	17 42 $\frac{1}{2}$	65 16 $\frac{1}{2}$ L.	47 26 8	12 6 $\frac{1}{2}$	11 21	72 $\frac{1}{2}$	10	☉ and ☉.
4 June 1.	3 40 56 $\frac{1}{2}$	43 45 $\frac{1}{2}$	63 12 $\frac{1}{2}$ L.	36 43 50 †		15 44 $\frac{1}{2}$	79	10	☉ and ☉.
	8 20 26	57 51 $\frac{1}{2}$	20 40 $\frac{1}{2}$ L.	37 36 32 †		15 2	78	3	☉ and Re- gulus.
8 — 2.	3 44 47	44 36 $\frac{1}{2}$	60 51 $\frac{1}{2}$ U.	47 47 43 †		17 36 $\frac{1}{2}$	78 $\frac{1}{2}$	10	☉ and ☉.
	8 15 52	58 56 $\frac{1}{2}$	34 16 $\frac{1}{2}$ L.	25 39 32 †		17 11	77	6	☉ and Re- gulus.
5 — 3.	3 41 54	46 51	52 47 $\frac{1}{2}$ U.	58 48 17 †		19 52 $\frac{1}{2}$	78 $\frac{1}{2}$	3	☉ and ☉.
	3 50 22 $\frac{1}{2}$	45 16 $\frac{1}{2}$	54 27 $\frac{1}{2}$ U.	58 49 0 †		19 44 $\frac{1}{2}$	78 $\frac{1}{2}$	5	☉ and ☉.
	8 28 42 $\frac{1}{2}$	67 11 $\frac{1}{2}$	44 43 $\frac{1}{2}$ L.	67 29 32 †		19 30 $\frac{1}{2}$	77	5	☉ and Spica ♌.
☉ — 4.	4 33 34	38 56 $\frac{1}{2}$	53 55 $\frac{1}{2}$ U.	69 58 39 †		21 29	79	8	☉ and ☉.
	8 33 35	67 0 $\frac{1}{2}$	56 11 $\frac{1}{2}$ L.	55 34 22 †		21 27 $\frac{1}{2}$	78	6	☉ and Spi- ca ♌.
☉ — 5.	4 17 24	44 3 $\frac{1}{2}$	40 3 $\frac{1}{2}$ U.	80 58 26 †		23 40	80	8	☉ and ☉.
	8 36 17 $\frac{1}{2}$	66 22 $\frac{1}{2}$	68 8 L.	43 34 46 †		23 18	79	8	☉ and Spi- ca ♌.
8 — 6.	4 45 27	40 40 $\frac{1}{2}$	34 54 U.	92 19 4 †			81	4	☉ and ☉.
	4 51 53 $\frac{1}{2}$	39 21 $\frac{1}{2}$	36 27 $\frac{1}{2}$ U.	92 21 40 †		26 22 $\frac{1}{2}$	81	10	☉ and ☉.
	8 54 33	69 22 $\frac{1}{2}$	76 43 $\frac{1}{2}$ L.	31 23 20 †		25 49 $\frac{1}{2}$	79 $\frac{1}{2}$	6	☉ and Spi- ca ♌.
☉ — 7.		40 31 $\frac{1}{2}$	25 8 $\frac{1}{2}$ U.	103 47 6	4 51 $\frac{1}{2}$	28 8 $\frac{1}{2}$	81	6	☉ and ☉.
	5 0 46	39 11 $\frac{1}{2}$	26 44 $\frac{1}{2}$ U.	103 49 56 †		28 34	81	8	☉ and ☉.
	9 14 3	73 9 $\frac{1}{2}$	83 53 $\frac{1}{2}$ U.	19 11 27 †		27 3 $\frac{1}{2}$	81	5	☉ and Spi- ca ♌.
4 — 8.	5 19 13	37 32 $\frac{1}{2}$	18 48 $\frac{1}{2}$ U.	115 38 27	3 45 $\frac{1}{2}$	29 31	81 $\frac{1}{2}$	10	☉ and ☉.
	9 20 50	27 35 $\frac{1}{2}$	77 26 $\frac{1}{2}$ U.	52 4 4 †		29 56 $\frac{1}{2}$	80	6	☉ and An- tares.

ASTRONOMICAL OBSERVATIONS

1775	Time by Watch K.	Altitude of the ☉'s L L	Moon's Altitude	Distance of the ☉ & L. from ☉ or *	Latitude of the Ship	Longitude West of Greenwich	Thermom.	No. of Obs.	Objects.
2 June 9	9 30 53	51 37 $\frac{1}{2}$	65 59 $\frac{1}{2}$ U	61 51 7 +		31 33 $\frac{1}{2}$	81 $\frac{1}{2}$	7	☉ and Regulus
	9 57 33	34 32 $\frac{1}{2}$	72 26 $\frac{1}{2}$ U	38 56 22 +		32 26 $\frac{1}{2}$	81 $\frac{1}{2}$	8	☉ and Antares
h — 10.	9 57 42	34 29 $\frac{1}{2}$	59 28 $\frac{1}{2}$ U	25 56 12 +		32 7 $\frac{1}{2}$	81	6	☉ and Antares
	10 7 57	80 57	61 53 $\frac{1}{2}$ U	22 51 40 +		32 18 $\frac{1}{2}$	81	2	☉ and Spica ☉ cloudy
O — 11	12 13 10	59 14 T	72 5 $\frac{1}{2}$ U	37 24 28 +	North				
	12 26 54	25 32 $\frac{1}{2}$ T	73 27 $\frac{1}{2}$ U	62 27 10 +	0 40 $\frac{1}{2}$	31 54 $\frac{1}{2}$	80	8	☉ and Spica ☉
D — 12.	11 55 45	19 22 $\frac{1}{2}$	56 16 $\frac{1}{2}$ U	50 24 18 +	0 40 $\frac{1}{2}$	32 36	80	6	☉ and Aquilae.
	12 11 32	58 5 $\frac{1}{2}$	59 13 $\frac{1}{2}$ U	51 49 0 +		31 48 $\frac{1}{2}$	81	6	☉ and Aquilae
O — 18	21 9 30	13 41 $\frac{1}{2}$	63 24 $\frac{1}{2}$ U	102 11 53 +		31 19 $\frac{1}{2}$	81	4	☉ and Spica ☉
D — 19	21 32 47	18 51 $\frac{1}{2}$	71 25 $\frac{1}{2}$ U	102 57 49	7 54	30 13 $\frac{1}{2}$	79 $\frac{1}{2}$	10	☉ and ☉
h — 20	21 25 46	16 8 $\frac{1}{2}$	82 21 $\frac{1}{2}$ L	76 11 40	9 10 $\frac{1}{2}$	31 6 $\frac{1}{2}$	80 $\frac{1}{2}$	7	☉ and ☉
h July 1	3 43 49	81 16 $\frac{1}{2}$	55 56 $\frac{1}{2}$ U	40 35 38 +		32 31 $\frac{1}{2}$	79 $\frac{1}{2}$	10	☉ and ☉
	6 6 19	50 8 $\frac{1}{2}$	76 54 $\frac{1}{2}$ U	41 12 54	27 21 $\frac{1}{2}$	41 3 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉ Dol Q
O — 2	5 38 29	56 33 $\frac{1}{2}$	66 14 $\frac{1}{2}$ U	52 5 37	28 53	41 1	76	10	☉ and ☉ Rams Q
D — 3	5 47 31	54 11 $\frac{1}{2}$	57 28 $\frac{1}{2}$ U	63 12 15 +		41 2 $\frac{1}{2}$	75 $\frac{1}{2}$	10	☉ and ☉
h — 4	5 39 57	55 26 $\frac{1}{2}$	45 23 $\frac{1}{2}$ U	74 22 39 +		40 11 $\frac{1}{2}$	75	6	☉ and ☉
	6 1 24	50 47 $\frac{1}{2}$	49 6 $\frac{1}{2}$ U	74 30 8 +		39 42 $\frac{1}{2}$	75	6	☉ and ☉ Dol Q
	11 21 52	40 20	37 0 $\frac{1}{2}$ L	22 8 7 +		40 8 $\frac{1}{2}$	75	8	☉ and ☉ A Bird ☉ Q.
h — 5	7 1 56	37 43 $\frac{1}{2}$	47 51 $\frac{1}{2}$ U	86 15 13 +		39 37	74	6	☉ and Spica ☉
	11 16 23	29 12 $\frac{1}{2}$	42 2 $\frac{1}{2}$ L	55 41 17 +		39 36	77	6	☉ and ☉
h — 6	5 49 18	52 53 $\frac{1}{2}$	24 55 $\frac{1}{2}$ U	97 32 29	33 12 $\frac{1}{2}$	39 28 $\frac{1}{2}$	75	2	☉ and Antares
	11 17 46	16 21 $\frac{1}{2}$	44 26 $\frac{1}{2}$ U	57 30 49 +		39 12 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and ☉
	11 28 30 $\frac{1}{2}$	29 42 $\frac{1}{2}$	43 14 $\frac{1}{2}$ U	43 6 18 +		38 58	75	6	☉ and Regulus
h — 7	6 24 39	45 20 $\frac{1}{2}$	20 3 $\frac{1}{2}$ U	109 50 36 +		39 20	75	6	☉ and Antares
	11 6 48	28 20	45 49 $\frac{1}{2}$ U	39 31 52 +		39 9	78 $\frac{1}{2}$	10	☉ and ☉
h — 8	7 9 19	36 13 $\frac{1}{2}$	15 59 $\frac{1}{2}$ U	122 39 11	34 14 $\frac{1}{2}$	39 19 $\frac{1}{2}$	76 $\frac{1}{2}$	6	☉ and Antares
						39 30 $\frac{1}{2}$	79 $\frac{1}{2}$	10	☉ and ☉ Back Obs

1775.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☉'s L. from Sun's or Star.	Latitude of the Ship N.	Longitude West of Greenwich.	Thermon.	No. of Obs.	Objects.
	H	°	°	°	°	°			
4 July 19.		21 36	59 9 $\frac{1}{2}$ U.	81 1 21	39 9	26 16	72	10	☉ and ☉ : very cloudy.
4 — 20.		24 16 $\frac{1}{2}$	63 01 $\frac{1}{2}$ U.	68 54 56	39 24 $\frac{1}{2}$	24 54	70	8	☉ and ☉.
	23 49 20	54 26 $\frac{1}{2}$	48 19 $\frac{1}{2}$ U.	68 4 14 +		25 9 $\frac{1}{2}$	71	8	☉ and ☉.
5 — 22.	3 12 26 $\frac{1}{2}$	65 28 $\frac{1}{2}$	21 4 U.	55 7 49 +		22 25	72 $\frac{1}{2}$	10	☉ and ☉.
	21 25 11	29 27 $\frac{1}{2}$	61 20 $\frac{1}{2}$ L.	45 35 10	40 32 $\frac{1}{2}$	20 40	68	10	☉ and ☉.
	23 18 1	50 37 $\frac{1}{2}$	65 53 $\frac{1}{2}$ U.	45 2 17	40 39	20 22 $\frac{1}{2}$	67 $\frac{1}{2}$	10	☉ and ☉.
	1 13 24	67 19 $\frac{1}{2}$	50 53 $\frac{1}{2}$ U.	44 26 53 +		20 39 $\frac{1}{2}$	69	8	☉ and ☉.
6 — 23.	2 59 37	64 50 $\frac{1}{2}$	31 46 $\frac{1}{2}$ U.	43 49 25 +		20 32 $\frac{1}{2}$		8	☉ and ☉.

* * The characters annexed to the preceding Observations are explained on p. 178 ; but it is necessary to add, that those numbers, which the letter T is found against, express the true altitude of the center of the object, found by computation ; it having been inconvenient, on some account or other, to observe the altitude of that object at the time. It may be farther remarked, that the dip of the horizon, on board the Resolution, was 4' 20", unless expressly said to be otherwise, and that when no Quadrant is mentioned, the observed distance may, in general, be supposed to have been taken with Dollond's Quadrant.

A
JOURNAL

OF THE

SITUATIONS of his Majesty's Sloop RESOLUTION each Day at Noon,
during her late Voyage on Discoveries towards the South;

As shewn by the Log, by two Time-keepers, one made by Mr. KENDALL, on
Mr. HARRISON's Principles, and the other by Mr. ARNOLD (No. 3.),
and also by Observation.

TOGETHER WITH

The LONGITUDES and LATITUDES of all Lands seen in that Voyage, as well
as the more remarkable Capes, Head-Lands, and Bays in them.

ON BOARD THE RESOLUTION.

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1772.	Course.	Dis- tance.	Latitude North		Longitude West				Corrected.	Swell Sets.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By A. No. 3.	By Obser- vation.		
		Miles.	°	°	°	°	°	°	°	
July 13.	S. 6½ W.	49	49 16	50 5	4 34½				4 34½	
14.	S. 40½ W.	32	48 52	48 50	4 51				4 46	S. E.
15.	S. 40½ W.	107	47 29	47 28½	5 22	5 18½	4 50½		5 22½	S. E.
16.	S. 20½ W.	64	46 28½	46 24½	7 06½	6 55½	6 20½		6 59½	S. E.
17.	N. 45 W.	22½	46 44½	46 43	7 40	7 29½	6 53½		7 33	E.
18.	S. 22 W.	85	45 25	45 20	8 04	7 36½	6 49½		7 41	E.
19.	Cape Ortgal.		43 46½		8 50	8 23½	7 29½		8 27½	
20.	S. 1½ E.	68	44 12	43 54	8 48				8 32	
21.	S. 59½ W.	45	43 31	43 30	9 39½				8 28	
22.	South.	1	43 30	43 35	9 44½	9 11½	7 53½	9 44½	8 59½	
23.	S. 36 W.	88	42 24	42 18	10 50	10 27½	9 02½	10 23½	9 15	
24.	S. 25½ W.	153	40 0	40 02	12 16	11 49½	10 15½	11 44	10 27½	
25.	S. 25½ W.	158	37 40	37 40	13 42½	13 10½	11 24½	13 10½	11 48½	
26.	W. 62 S.	145	35 32	35 31½	15 08	14 28½	12 34½	13 10½	13 10½	
27.	S. 19½ W.	111	33 46½	33 43	15 54	15 09½	13 08½	14 36	14 28	
28.	S. 48 W.	82	32 48	32 48½	17 02	16 36½	14 26½	15 22	15 09½	
	Porto Santo.		32 58½					16 30	16 36	
	Fonchial, in Madeira.		32 33½						16 25½	
Aug. 2.			31 58						17 11½	
3.	S. by W. 135½	29 45	29 42½		18 22½	17 29½	14 25½		17 02	
	N. E. end of Palma.		28 43						17 34½	
	Middle of Palma.		28 36						17 56½	
4.	S. 35 W.	80	28 37.		19 10½	18 24½	14 41½		18 0½	
5.			27 55½		19 38½	18 50½		18 52	19 11½	
	Hummock, towards the S. end of Ferro.		27 42						18 53½	
6.	S. 11½ W.	111	26 06½	26 07½	20 02½			19 17	18 09½	
7.	S. 8½ W.	128	24 0½	24 06½	20 23½	19 31½	15 02½	19 45	18 34½	
8.	S. 8 W.	120	22 07	22 07	20 41½	19 59½	15 16½	20 03½	19 24	
9.	S. 19½ W.	129	20 05½	20 05½	21 28	20 54½	15 53½	20 50	19 52	
10.	S. 22½ W.	151½	17 46	17 48	22 29½	22 06½	16 48½	21 51½	20 27	
11.	S. 22 W.	107	16 07½	16 10½	23 11	22 48½	17 12½	22 33	21 59	
	North Point.		16 13½						22 41½	
	Bonavista, East Point.		16 03½							
	South Point.		15 58						22 44½	
	North End.		15 15½							
	Mayo, Great Hummock.		15 12½						23 03	
	South end.		15 11						23 04	
12.	S. 30 W.	80½	15 0	14 59½	23 53	23 26½	17 34½	23 15	23 10	
	Port Praya, in St. Jago.		14 53½		24 4	23 36½	17 42½	23 40	23 18	
15.	S. 34 E.	76½	13 49½	13 49½	23 9			22 31	23 29½	
16.	S. 11 E.	90	12 21½	12 19½	22 51½	23 0½	15 51½	22 13½	22 34½	
17.	S. 59½ E.	46	11 56	11 54	22 11½			21 35½	22 52½	
18.	S. 56 E.	53	11 26	11 22½	21 26½	21 21½	13 34½	20 50½	22 12½	

1772	Course	Distance Miles.	Latitude North		Longitude West					Swell Sets
			By Ac- count	By Obser- vation	By Ac- count	By Watch K	By A No 3	By Obser- vation	Corrected	
Aug 19	S 24 E	48	10 39	10 39	21 07	20 54 ¹	13 07 ¹	19 12 ¹	20 47	
20	S 9 E	86 ¹	9 13 ¹	9 13 ¹	20 53			18 58 ¹	20 08	
21	S 30 E	40	8 38 ¹	8 37	20 32			18 38 ¹	19 21 ¹	
22	S 54 E	75	7 53	7 50	19 30 ¹	18 01 ¹	9 09 ¹	17 36 ¹	17 53 ¹	
23	S 43 ¹ E	84 ¹	6 48 ¹	6 48 ¹	18 29 ¹	16 49 ¹	7 44 ¹	16 31 ¹	16 41 ¹	
24	S 67 E	74	6 20	6 23 ¹	17 21	15 27 ¹	6 06 ¹	14 46	15 19 ¹	
25	S 56 E	53	5 53 ¹	5 54	16 37			14 02	14 12 ¹	
26	S E	64	5 08 ¹	5 06 ¹	15 51 ¹			13 16 ¹	13 03 ¹	
27	S 48 E	81	4 12	4 13	14 51	11 47 ¹	1 38 ¹	12 16	11 40 ¹	
28	S 68 E	75	3 45	3 42 ¹	13 42	10 17 ¹	East	11 07	10 01 ¹	
29	S 58 E	63	3 08 ¹	3 09 ¹	12 48	8 59 ¹	0 07 ¹	10 13	8 43 ¹	
30	S 63 ¹ E	71	2 37	2 36	11 44	7 12 ¹	1 35 ¹	9 09	6 56 ¹	
31	S 85 E	50	2 31 ¹	2 31 ¹	10 54	5 31 ¹	3 39 ¹	8 19	5 15 ¹	
Sept. 1	S 57 ¹ W	53	2 05	1 58 ¹	11 38	5 40 ¹	5 42	9 03	5 25 ¹	
2	S 44 W	49	1 23	1 21 ¹	12 12 ¹	6 24 ¹	6 02 ¹	5 35	6 09	
3	S 71 W	82	0 56	0 59	13 30		5 29 ¹	6 52 ¹	7 37 ¹	
4	S 80 W	66	0 45	0 50 ¹	14 35	9 09 ¹	3 10 ¹	7 57 ¹	8 53 ¹	
The current set N by E 32 feet in a minute										
5	S 78 W	10 ¹	0 48 ¹	0 53 ¹	14 45	9 12 ¹	3 20 ¹	9 54	8 56 ¹	
6	S 64 E	55	0 29 ¹	0 33 ¹	13 55 ¹	7 52 ¹	4 54 ¹	9 0	7 36 ¹	
7	S 83 E	47	0 28	0 23	13 09			8 22	7 17 ¹	
8	S 60 W	71	South	South	Crossed the Equinoctial				8 12 ¹	
9	S 48 W	50	0 51 ¹	0 59	14 10 ¹	9 02 ¹	4 52 ¹	7 58 ¹	8 47	
10	S 54 W	68	1 54	2 0	14 48	9 45 ¹	4 25 ¹	9 26	9 30	
11	S 33 W	70	2 59	3 05 ¹	15 28	10 52 ¹	2 52 ¹	10 06	10 37	
12	S 22 W	67	4 08 ¹	4 12	16 32	12 17 ¹	2 08 ¹	10 44 ¹	12 02	
13	S 36 W	73	5 10	5 12	17 14	13 16 ¹	1 35 ¹	11 10	13 0 ¹	
14	S 29 ¹ W	92		6 32	17 59 ¹	14 16 ¹	0 49 ¹	14 21 ¹	14 21 ¹	
15	S 18 ¹ W	109 ¹		8 16 ¹	18 34 ¹	15 08 ¹	0 22 ¹	15 13 ¹	15 13 ¹	
16	S 23 ¹ W	79	9 29 ¹	9 29 ¹	19 04 ¹		West	16 22 ¹	16 22 ¹	
17	S 20 W	92 ¹		11 04	19 32 ¹	18 21 ¹	1 17 ¹	18 26	17 25 ¹	
18	S 24 W	102	14 04	12 31	20 04 ¹	18 37 ¹	1 45 ¹	17 56 ¹	18 26 ¹	
19	S 16 W	91	15 34	14 07	20 46 ¹	19 35 ¹	2 21 ¹	18 54 ¹	18 43 ¹	
20	S 21 W	95 ¹	17 07	15 38	21 12 ¹	20 12 ¹	2 37 ¹	20 06 ¹	19 40 ¹	
21	S 21 ¹ W	92 ¹	18 39	17 14	21 51	21 17 ¹		20 57 ¹	20 17	
22	S 14 W	81	20 05 ¹	18 46 ¹	22 29 ¹	21 32 ¹	3 33 ¹	21 19 ¹	21 57 ¹	
23	S 17 W	80 ¹	21 29	20 12 ¹	22 52	22 0 ¹	3 53 ¹	21 47 ¹	21 37 ¹	
24	S 31 W	87	22 50	21 35 ¹	23 19 ¹	22 33 ¹	4 0 ¹	22 21	22 05 ¹	
25	S 0 ¹ W	74 ¹	24 09	22 54 ¹	24 10 ¹	23 43 ¹		23 30 ¹	23 38 ¹	
26	S 2 W	26	24 43	24 17	24 12 ¹	23 46 ¹	4 21 ¹	23 39 ¹	23 48 ¹	
27	S 23 E	45	25 26 ¹	25 29 ¹	23 52 ¹		East	23 51 ¹	23 51 ¹	
28	S 59 E	80	26 11	26 17 ¹	22 25 ¹	20 08 ¹	10 07 ¹	19 55 ¹	22 15 ¹	
29	S 70 ¹ E	114	26 55 ¹	26 58 ¹	20 18 ¹			20 13	20 13	

ON BOARD THE RESOLUTION.

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1772.	Course.	Distance.	Latitude South		Longitude West					Corrected.	Swell Sets.
			By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.			
									Miles.		
4 Oct.	1. S. 75 E.	107	27 26	27 28	18 14 $\frac{1}{2}$	18 09	2 23 $\frac{1}{2}$	17 56 $\frac{1}{2}$	18 14		
2	2. S. 75 $\frac{1}{2}$ E.	46 $\frac{1}{2}$	27 39 $\frac{1}{2}$	27 38 $\frac{1}{2}$	17 29	17 07 $\frac{1}{2}$	3 42 $\frac{1}{2}$	17 01 $\frac{1}{2}$	17 13 $\frac{1}{2}$	N. E.	
5	3. S. 67 $\frac{1}{2}$ E.	87	28 11 $\frac{1}{2}$	28 09 $\frac{1}{2}$	16 04	15 27 $\frac{1}{2}$	5 31 $\frac{1}{2}$	15 10 $\frac{1}{2}$	15 32 $\frac{1}{2}$	N. E.	
10	4. S. 67 $\frac{1}{2}$ E.	135 $\frac{1}{2}$	29 01	29 23	13 37	13 08 $\frac{1}{2}$	8 11 $\frac{1}{2}$	13 33	13 14 $\frac{1}{2}$		
13	5. S. 88 $\frac{1}{2}$ E.	80 $\frac{1}{2}$	29 04	29 04	12 0	11 28 $\frac{1}{2}$	10 08 $\frac{1}{2}$	11 50	11 33 $\frac{1}{2}$		
16	6. S. 12 W.	44 $\frac{1}{2}$	29 44	29 48 $\frac{1}{2}$	12 12 $\frac{1}{2}$	11 45 $\frac{1}{2}$	10 05 $\frac{1}{2}$	11 40	11 50 $\frac{1}{2}$		
19	7. S. 2 $\frac{1}{2}$ W.	81	31 09 $\frac{1}{2}$	31 21	12 16 $\frac{1}{2}$	11 56 $\frac{1}{2}$	10 17 $\frac{1}{2}$	11 51 $\frac{1}{2}$	12 01 $\frac{1}{2}$		
22	8. S. 23 $\frac{1}{2}$ E.	76	32 30 $\frac{1}{2}$	32 45 $\frac{1}{2}$	11 33	11 29 $\frac{1}{2}$	10 56 $\frac{1}{2}$	11 24 $\frac{1}{2}$	11 34 $\frac{1}{2}$		
25	9. S. 39 E.	83	33 50 $\frac{1}{2}$	34 0 $\frac{1}{2}$	10 21 $\frac{1}{2}$	10 16 $\frac{1}{2}$	12 22 $\frac{1}{2}$	10 11 $\frac{1}{2}$	10 22 $\frac{1}{2}$		
28	10. S. 70 E.	84	34 29	34 28 $\frac{1}{2}$	8 42 $\frac{1}{2}$	8 43 $\frac{1}{2}$	14 36 $\frac{1}{2}$	8 18	8 27		
31	11. E. by S. $\frac{1}{2}$ S.	66 $\frac{1}{2}$	34 44 $\frac{1}{2}$	34 44 $\frac{1}{2}$	7 24 $\frac{1}{2}$	7 05 $\frac{1}{2}$	16 07 $\frac{1}{2}$	7 0 $\frac{1}{2}$	7 18 $\frac{1}{2}$		
3	12. E. by S.	34 $\frac{1}{2}$	34 51 $\frac{1}{2}$	34 51 $\frac{1}{2}$	6 37 $\frac{1}{2}$	6 25 $\frac{1}{2}$	16 49 $\frac{1}{2}$	5 55 $\frac{1}{2}$	6 25		
6	13. S. 62 $\frac{1}{2}$ E.	42	35 11 $\frac{1}{2}$	35 14 $\frac{1}{2}$	5 47 $\frac{1}{2}$				5 18		
9	14. S. 77 E.	89	35 34 $\frac{1}{2}$	35 32 $\frac{1}{2}$	4 12	3 25 $\frac{1}{2}$	20 0 $\frac{1}{2}$	2 55 $\frac{1}{2}$	3 19		
12	15. S. 85 E.	85	35 40	35 34 $\frac{1}{2}$	2 28 $\frac{1}{2}$	1 22 $\frac{1}{2}$	22 46 $\frac{1}{2}$	0 53	1 14		
15	16. N. 81 E.	135	35 17	35 17	0 15 $\frac{1}{2}$	1 37 $\frac{1}{2}$	26 01 $\frac{1}{2}$	2 06 $\frac{1}{2}$	1 46		
The water discoloured, as if we were in soundings.											
18	17. N. 82 E.	110	35 01 $\frac{1}{2}$	35 0	2 28 $\frac{1}{2}$	3 59 $\frac{1}{2}$	28 33 $\frac{1}{2}$	4 41 $\frac{1}{2}$	4 09		
21	18. N. 80 E.	128	34 37 $\frac{1}{2}$	34 37 $\frac{1}{2}$	5 04 $\frac{1}{2}$	6 31 $\frac{1}{2}$	31 28 $\frac{1}{2}$	7 14 $\frac{1}{2}$	6 43		
24	19. N. 71 E.	60	34 21 $\frac{1}{2}$	34 19	6 11 $\frac{1}{2}$	7 26 $\frac{1}{2}$	32 35 $\frac{1}{2}$	8 08 $\frac{1}{2}$	7 37 $\frac{1}{2}$		
27	20. S. 29 E.	29	34 44 $\frac{1}{2}$	34 48 $\frac{1}{2}$	6 29	7 36 $\frac{1}{2}$	32 57 $\frac{1}{2}$	8 02 $\frac{1}{2}$	7 47 $\frac{1}{2}$		
30	21. S. 5 E.	55	35 42 $\frac{1}{2}$	35 39	6 34 $\frac{1}{2}$	7 21 $\frac{1}{2}$	33 07 $\frac{1}{2}$	7 59 $\frac{1}{2}$	7 32 $\frac{1}{2}$		
1 Nov.	22. S. S. E.	76	36 50	36 52 $\frac{1}{2}$	7 11 $\frac{1}{2}$	8 09 $\frac{1}{2}$	33 58 $\frac{1}{2}$	8 47 $\frac{1}{2}$	8 20 $\frac{1}{2}$		
4	23. S. 65 E.	37 $\frac{1}{2}$	37 08 $\frac{1}{2}$	37 12 $\frac{1}{2}$	7 54 $\frac{1}{2}$	9 0 $\frac{1}{2}$	35 02 $\frac{1}{2}$	9 38 $\frac{1}{2}$	9 11 $\frac{1}{2}$		
7	24. E. N. E. $\frac{1}{2}$ E.	91	36 42	36 38	9 42	11 0 $\frac{1}{2}$	37 26 $\frac{1}{2}$	11 38 $\frac{1}{2}$	11 11 $\frac{1}{2}$		
10	25. N. 63 E.	136	35 37	35 37	12 12 $\frac{1}{2}$				13 23 $\frac{1}{2}$		
13	26. N. 49 E.	91	34 37 $\frac{1}{2}$	34 29 $\frac{1}{2}$	13 37 $\frac{1}{2}$	14 18 $\frac{1}{2}$	41 16 $\frac{1}{2}$	14 57	14 30	W.	
Sounded: No ground with 210 fathoms.											
16	27. N. 45 E.	79	33 44	33 43	14 44 $\frac{1}{2}$	15 11 $\frac{1}{2}$	42 25 $\frac{1}{2}$	15 49 $\frac{1}{2}$	15 22 $\frac{1}{2}$	W.	
Sounded: No ground with 200 fathoms.											
19	28. N. 89 E.	53	33 43	33 41 $\frac{1}{2}$	15 46 $\frac{1}{2}$	15 56 $\frac{1}{2}$	43 27 $\frac{1}{2}$	16 35	16 08		
Sounded: No ground with 220 fathoms.											
22	29. S. 81 E.	74	33 53 $\frac{1}{2}$	33 53 $\frac{1}{2}$	17 14				17 30		
Cape of Good Hope.											
			33 57	33 56	18 10 $\frac{1}{2}$	18 12 $\frac{1}{2}$	47 18 $\frac{1}{2}$	18 50	18 23 $\frac{1}{2}$		
25 Nov.	23. S. 46 W.	58	34 37	34 36 $\frac{1}{2}$	17 32 $\frac{1}{2}$	17 46 $\frac{1}{2}$	17 29 $\frac{1}{2}$		17 43 $\frac{1}{2}$	N.	
28	24. S. 10 E.	50	35 25	35 23 $\frac{1}{2}$	17 42 $\frac{1}{2}$	17 58 $\frac{1}{2}$	17 35		17 55 $\frac{1}{2}$	N.	
1 Dec.	25. S. 20 W.	98	36 55 $\frac{1}{2}$	37 14	16 52 $\frac{1}{2}$	16 38 $\frac{1}{2}$	16 02 $\frac{1}{2}$		16 38 $\frac{1}{2}$		
4	26. S. 11 W.	99	38 51	39 03 $\frac{1}{2}$	16 25 $\frac{1}{2}$	15 34 $\frac{1}{2}$	15 02 $\frac{1}{2}$		15 34 $\frac{1}{2}$		
7	27. S. 27 E.	67	40 03	40 05 $\frac{1}{2}$	17 06 $\frac{1}{2}$	16 31 $\frac{1}{2}$	15 53 $\frac{1}{2}$		16 31 $\frac{1}{2}$		
10	28. S. 4 E.	55	40 58	40 58 $\frac{1}{2}$	17 11 $\frac{1}{2}$				16 31 $\frac{1}{2}$		
13	29. S. 3 E.	69	42 07 $\frac{1}{2}$	42 08	17 16 $\frac{1}{2}$	16 30 $\frac{1}{2}$	15 42 $\frac{1}{2}$		16 30 $\frac{1}{2}$		
16	30. S. 60 E.	29	42 22 $\frac{1}{2}$	42 22	17 50 $\frac{1}{2}$				17 13 $\frac{1}{2}$		
19 Dec.	1. S. 8 E.	53	43 14 $\frac{1}{2}$	43 14 $\frac{1}{2}$	18 0 $\frac{1}{2}$				17 32 $\frac{1}{2}$		

1773	Course	Distance	Latitude South		Longitude East					Corrected	Swell
			By Account	Observation	By Account	By Watch K	By A No 3	By Observation			
									Miles		
Feb 12	S	51	L 148	52 56	52 48	73 49	70 34	69 11	70 48	71 01	
13	S	54	E 111	53 53	53 54	76 18	72 53	71 33	73 21	73 20	
14	S	48	E 125	55 18	55 18	78 0	73 35	72 19	74 3	74 02	
15	S	56	E 163	56 49	56 50	82 1	79 12	77 54	79 40	79 39	
16	S	70	E 75	57 15	57 15	84 11	81 20	80 4	81 47	81 47	
17	S	44	E 56	57 55	57 54	85 24				82 38	
18	S	86	E 57	57 59	57 57	87 11	83 34	82 21	83 49	84 2	
19	S	76	E 135	58 29	58 30	91 20				88 07	
20	S	81	E 122	58 47	58 46	95 11	91 25	90 15	91 38	91 54	
21	S	67	E 29	58 58	59 0	96 3	92 20	91 12	92 33	92 50	
22	S	46	E 47	59 31	59 35	97 10	93 34	92 27	93 47	94 04	
23	S	20	E 90	60 55	61 1	98 13				94 56	
24	S	46	E 28	61 20	61 20	98 55				95 29	
25	N	16	E 33	60 49	60 48	99 14	95 6	94 6	95 18	95 37	
26	S	76	E 81	61 7	61 8	101 58	97 32	96 33	97 43	98 04	
27	N	55	E 77	60 24	60 24	104 27				100 37	
March 1	S	67	L 94	59 58	59 57	108 54	104 34	103 39	104 45	105 08	
2	S	40	W 13	60 34	60 34	111 48				108 14	
3	N	64	E 65	60 44	60 44	111 32				108 09	
4	S	82	E 105	60 15	60 16	113 32	109 45	108 51	109 56	110 20	
5	S	88	E 108	60 32	60 35	117 2				113 55	
6	N	34	E 42	60 34	60 38	120 43	116 53	115 55	117 03	117 29	
7	N	86	L 56	60 3	60 9	121 30	118 0	117 13	118 10	118 37	
8	N	41	E 45	59 59	60 12	123 21				120 25	
9	N	48	E 77	59 25	59 43	124 19	120 40	119 58	120 49	121 19	
10	N	71	E 154	58 53	58 55	126 4				123 01	
11	S	85	E 91	58 16	58 6	130 43				127 37	
12	S	48	E 69	58 55	58 55	133 35	129 45	129 8	129 54	130 26	
13	N	76	E 55	58 42	58 42	135 14	131 4	130 25	131 12	131 46	
14	N	76	E 86	58 21	58 21	136 57	132 41	132 4	132 49	133 24	
15	S	69	E 119	59 4	59 4	139 37	135 17	134 42	136 15	136 0	
16	N	83	E 110	58 50	58 51	143 11	138 59	138 25	139 58	139 43	
Stood to the Northward				58 57	58 57	146 42	142 9	141 36	143 8	142 54	
17	N	81	E 148	58 28	58 28	151 32	146 35			146 25	
18	N	30	E 136	56 30	56 31	153 39	149 9	148 38	147 33	147 20	
19	N	36	E 144	54 35	54 46	156 10			150 7	149 55	
20	N	49	E 164	52 48	53 22	158 51	153 48	153 18	154 45	154 36	
21	N	31	E 150	51 14	51 14	160 59				156 47	
22	N	49	E 123	49 55	49 55	163 26	158 27	158 2	159 24	159 17	
23	N	40	E 169	47 45	47 45	166 6	160 45	160 23	161 42	161 36	
24	N	51	E 115	46 32	46 32	168 19	162 50	162 29	163 47	163 42	
25	N	79	E 83	46 17	46 15	170 17				165 38	
26	N	32	E 95	45 45	45 45	170 44				166 4	
Observatory at Duck Bay				45 47	45 47					166 18	

ON BOARD THE RESOLUTION.

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1773.	Course.	Distance.	Latitude South		Longitude East					Swell sets.
			By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.	Corrected.	
		Miles.								
8 May 11.				45 37					166 41	
12.	N. 29 E.	61	44 38 $\frac{1}{2}$	44 36 $\frac{1}{2}$	166 34 $\frac{1}{2}$				167 17	
13.	N. 34 E.	119	42 59 $\frac{1}{2}$	42 55 $\frac{1}{2}$	168 06 $\frac{1}{2}$				168 57	
14.	N. 51 E.	97 $\frac{1}{2}$	41 58 $\frac{1}{2}$	41 52 $\frac{1}{2}$	169 49 $\frac{1}{2}$	170 20 $\frac{1}{2}$	169 54 $\frac{1}{2}$		170 53 $\frac{1}{2}$	
15.	N. 32 E.	46 $\frac{1}{2}$	41 13	41 13	170 22 $\frac{1}{2}$	170 59 $\frac{1}{2}$	170 29 $\frac{1}{2}$		171 33 $\frac{1}{2}$	
16.	N. 52 E.	23	40 59	40 58	170 51				172 17	
	Cape Farwell.			40 35 $\frac{1}{2}$					172 47 $\frac{1}{2}$	
17.	N. 60 E.	43	40 37 $\frac{1}{2}$	40 33 $\frac{1}{2}$	171 48 $\frac{1}{2}$	172 54 $\frac{1}{2}$	172 29	173 33 $\frac{1}{2}$	173 29 $\frac{1}{2}$	
18.	S. 66 E.	54	40 56	41 3					174 27 $\frac{1}{2}$	
	Q. Charlotte's Sound.			41 6					174 18 $\frac{1}{2}$	
8 June 8.				41 56 $\frac{1}{2}$		174 57 $\frac{1}{2}$			175 36 $\frac{1}{2}$	
9.	S. 52 E.	91	42 52 $\frac{1}{2}$	42 57 $\frac{1}{2}$	176 37				177 32	
10.	S. 52 E.	100 $\frac{1}{2}$	43 54	43 54 $\frac{1}{2}$	178 25 $\frac{1}{2}$	179 02 $\frac{1}{2}$		179 54	179 41 $\frac{1}{2}$	N.W.
11.	S. 52 E.	78 $\frac{1}{2}$	44 43	44 46	179 52				181 0	N.W.
12.	S. 59 $\frac{1}{2}$ E.	109	45 38	45 44	182 04				183 24	N.W.
13.	S. 31 E.	43	46 15	46 24	182 36 $\frac{1}{2}$				184 7 $\frac{1}{2}$	
14.	S. 71 $\frac{1}{2}$ E.	25 $\frac{1}{2}$	46 23	46 35	183 11 $\frac{1}{2}$				184 53 $\frac{1}{2}$	N.W.
15.	S. 76 E.	32	46 31	46 46 $\frac{1}{2}$	183 57 $\frac{1}{2}$	185 23 $\frac{1}{2}$		186 14 $\frac{1}{2}$	185 58 $\frac{1}{2}$	
16.	S. 32 E.	33	46 59 $\frac{1}{2}$	46 58	184 23				186 9	S.W.
17.	N. 40 E.	50	46 21	46 18 $\frac{1}{2}$	185 10	186 8		186 58 $\frac{1}{2}$	186 41	S.W.
18.	N. 75 E.	91	45 54 $\frac{1}{2}$	45 54	187 16 $\frac{1}{2}$	188 8		188 59 $\frac{1}{2}$	188 41	
19.	N. 59 E.	85	45 10	45 6	188 59				190 33 $\frac{1}{2}$	
20.	N. 76 E.	114	44 42	44 34	191 35				193 3 $\frac{1}{2}$	
21.	N. 87 E.	67	44 38 $\frac{1}{2}$	44 26	193 10	194 17 $\frac{1}{2}$		195 9	194 48 $\frac{1}{2}$	N.W.
22.	S. 79 E.	66	44 39	44 35 $\frac{1}{2}$	194 43	195 54 $\frac{1}{2}$		196 46	196 25 $\frac{1}{2}$	
23.	S. 89 E.	50	44 37	44 37 $\frac{1}{2}$	195 55	197 23		198 14 $\frac{1}{2}$	197 53	
24.	N. 8 W.	58	43 38	43 37	195 51				197 37	
25.	N. 19 W.	23	43 16	43 14	195 41				197 15	
26.	N. 69 E.	9	43 13	43 9 $\frac{1}{2}$	195 53	196 47		196 24	197 15	
27.	N. 11 E.	36	42 34	42 34	196 2				197 27	
28.	S. 86 E.	36	42 36	42 35	196 51				198 9 $\frac{1}{2}$	
29.	S. 54 E.	23	42 49	42 46 $\frac{1}{2}$	197 19				198 40 $\frac{1}{2}$	
30.	S. 67 E.	59	43 9 $\frac{1}{2}$	43 6	198 38				200 2 $\frac{1}{2}$	
1 July 1.	S. 82 E.	71	43 15	43 7 $\frac{1}{2}$	200 21	201 26 $\frac{1}{2}$		202 11 $\frac{1}{2}$	201 49 $\frac{1}{2}$	
2.	N. 87 E.	64	43 4	43 2 $\frac{1}{2}$	201 54	202 52 $\frac{1}{2}$		203 2 $\frac{1}{2}$	203 15 $\frac{1}{2}$	
3.	S. 72 E.	56	43 20	43 18	203 12	204 19 $\frac{1}{2}$		204 29 $\frac{1}{2}$	204 42 $\frac{1}{2}$	
4.	S. 53 E.	51	43 57	43 58	203 56	205 10		205 20	205 32	S.W.
5.	N. 62 E.	105	43 9	43 11	206 11	207 12		207 22	207 34	W.
6.	N. 34 E.	76	42 6	42 7 $\frac{1}{2}$	206 23	208 0		208 10	208 32	W.
7.	N. 33 E.	52	41 23 $\frac{1}{2}$	41 22	207 8	208 48 $\frac{1}{2}$		209 10 $\frac{1}{2}$	209 10 $\frac{1}{2}$	
8.	S. 64 E.	83	41 58 $\frac{1}{2}$	41 59	208 59	210 48 $\frac{1}{2}$		211 8 $\frac{1}{2}$	211 10 $\frac{1}{2}$	N.
9.	S. 65 E.	91	42 37	42 39 $\frac{1}{2}$	210 48	212 55 $\frac{1}{2}$		213 15	213 17 $\frac{1}{2}$	
10.	S. 61 E.	132	43 43 $\frac{1}{2}$	43 36 $\frac{1}{2}$	213 32	215 27 $\frac{1}{2}$		215 47	215 49 $\frac{1}{2}$	
11.	S. 87 E.	99 $\frac{1}{2}$	43 48 $\frac{1}{2}$	43 34 $\frac{1}{2}$	215 57	217 43 $\frac{1}{2}$		217 49 $\frac{1}{2}$	218 5 $\frac{1}{2}$	
12.	N. 79 E.	79	43 18 $\frac{1}{2}$	43 16	217 51	219 42 $\frac{1}{2}$		219 28 $\frac{1}{2}$	219 42 $\frac{1}{2}$	
13.	N. 79 E.	46	43 7	43 1 $\frac{1}{2}$	218 57	220 51 $\frac{1}{2}$		221 8	221 13 $\frac{1}{2}$	

1773	Course.	Distance	Latitude South		Longitude East				Corrected.	Swell feet
			By Ac. count	By Obser. vation	By Ac. count	By Watch K	By Obser. vation			
								Miles		
July 14	S 79 E	39	43 9	43 7	220 0			222 14		
15	N 4 W	30	42 40	42 36	219 57			222 08		
16	N 51 E	109	41 31	41 24	222 4	223 50 ¹	224 6 ¹	224 12 ¹		
17	N 51 E	136	39 58	39 43 ¹	224 48	226 10 ¹	226 26 ¹	226 32 ¹		
18	N 6 E	108	37 56	37 56	225 2	226 22 ¹	226 38 ¹	226 44 ¹		
19	N 8 E	83	36 45 ¹	36 34 ¹	225 17	226 43	226 59 ¹	227 5		
20	N 6 W	74	35 23	35 20	225 7	226 33	226 49 ¹	226 55		
21	N 1 ¹ W	156	32 44 ¹	32 44	224 48	225 49	226 5 ¹	226 12		
22	N 15 W	100 ¹	31 7 ¹	31 5 ¹	224 25	225 13 ¹	225 29 ¹	225 36 ¹		
23	N 7 W	98	29 28	29 22 ¹	224 10	224 52 ¹	225 8 ¹	225 15 ¹		
24	S 67 W	73	29 50 ¹	29 47	222 52			224 3		
25	S 88 W	26	29 51 ¹	29 44 ¹	222 22	223 16 ¹	223 29 ¹	223 39 ¹		
26	N 37 E	66	28 51 ¹	28 52 ¹	223 7	224 15 ¹	224 37 ¹	224 38 ¹		
27	N 16 E	57	27 58	27 53 ¹	223 26 ¹	224 31 ¹	225 14	224 54 ¹		
28	N 73 W	27	27 44	27 43	223 13 ¹	223 58 ¹	224 52 ¹	224 21 ¹		
29	N 69 W	43	27 28	27 30 ¹	222 28 ¹	223 11 ¹	224 12	223 34 ¹		
30	N 61 E	55	27 4	27 4 ¹	223 22 ¹	224 13 ¹	225 14	224 37		
31	N 18 E	46	26 20 ¹	26 19 ¹	223 36 ¹	224 49 ¹	225 23 ¹	225 13		
Aug 1	N 25 E	85	25 2 ¹	25 2 ¹	224 16 ¹			225 54		
2	N 3 E	108	23 14 ¹	23 14	224 22 ¹	225 36 ¹	226 2 ¹	226 0 ¹		
3	N 2 E	60	22 12 ¹	22 8 ¹	224 24 ¹	225 51 ¹	227 7 ¹	226 15 ¹		
4	N 13 E	38	21 30	21 18	224 37	226 2 ¹	227 12 ¹	226 26 ¹		
5	N 56 E	70	20 38 ¹	20 39 ¹	225 17 ¹	227 30 ¹	228 40 ¹	227 54 ¹		
6	N 83 E	60	19 48	19 47 ¹	226 19	227 59 ¹	229 9 ¹	228 24		
7	N 59 W	97	18 57	18 51	224 59			226 54 ¹		
8	N 70 W	148	18 1	18 4 ¹	222 31	223 52	225 2	224 16 ¹		
9	N 79 W	120	17 41 ¹	17 41 ¹	220 27 ¹	221 40	221 57 ¹	222 4 ¹		
10	N 84 W	111	17 30	17 22 ¹	218 31 ¹	219 35	220 2 ¹	219 59 ¹		
	Resolution Island.		17 23 ¹					218 15		
11	N 86 W	112	17 15	17 17 ¹	216 34 ¹	217 34	218 1 ¹	217 58 ¹		
	Furneaux's Island		17 11					216 53 ¹		
12	N 88 W	91	17 18 ¹	17 11	214 59 ¹	215 58	215 58	216 22 ¹		
	Adventure Island		17 6 ¹					215 42 ¹		
13	S 87 W	75	17 15	17 16 ¹	213 41 ¹	214 41	214 41	215 4		
	Chain Island		17 25					214 29 ¹		
14	S 89 W	99	17 18	17 15	211 57 ¹	212 53	212 55	213 18		
	Mitaka, or Osnaburg		17 52 ¹					211 54 ¹		
15	S 75 W	96	17 40	17 46 ¹	210 22 ¹	211 14 ¹	211 38 ¹	211 39 ¹		
16	N 87 W	40	17 44	17 44 ¹	209 41 ¹			210 58		
	Oatipeha Bay		17 46 ¹					210 46 ¹		
24			17 42					210 47 ¹		
25			17 28 ¹					210 28 ¹		
Sept 2	Point Venus.		17 29 ¹					210 25 ¹		
	Owharre Bay, S. part.		16 51 ¹							
7			16 44 ¹					208 52 ¹		
	Ohamaneno Bay		16 50 ¹							
			16 45 ¹					208 20 ¹		

South

1773.	Course.	Distance. Miles.	Latitude South		Longitude East				Swallow Sets.
			By Account.	By Observation.	By Account.	By Watch R.	By Observation.	Corrected.	
Sept. 17.				16 51 $\frac{1}{2}$				208 0	
18.	S. 71 W.	75	17 16	17 17	206 59	206 43		206 45	
19.	S. 70 W.	66	17 39 $\frac{1}{2}$	17 40	205 54	205 38 $\frac{1}{2}$		205 42 $\frac{1}{2}$	
20.	S. 69 W.	65	18 3 $\frac{1}{2}$	18 3 $\frac{1}{2}$	204 49			204 39	
21.	S. 67 W.	51	18 23 $\frac{1}{2}$	18 22 $\frac{1}{2}$	204 0	203 44 $\frac{1}{2}$	204 10 $\frac{1}{2}$	203 52 $\frac{1}{2}$	
22.	S. 71 W.	51	18 39 $\frac{1}{2}$	18 41	203 9	202 46 $\frac{1}{2}$	203 12 $\frac{1}{2}$	202 56 $\frac{1}{2}$	
23.	S. 70 W.	80 $\frac{1}{2}$	19 08 $\frac{1}{2}$	19 8 $\frac{1}{2}$	201 49	201 12 $\frac{1}{2}$	201 38 $\frac{1}{2}$	201 24 $\frac{1}{2}$	
	Hervey's Islands.			19 17				201 12	
24.	S. 72 W.	71	19 29 $\frac{1}{2}$	19 28 $\frac{1}{2}$	200 41 $\frac{1}{2}$	199 33	199 54 $\frac{1}{2}$	199 47	
25.	S. 76 W.	101	19 53 $\frac{1}{2}$	19 51 $\frac{1}{2}$	198 56	197 36 $\frac{1}{2}$	198 18 $\frac{1}{2}$	197 52 $\frac{1}{2}$	
26.	S. 73 W.	109	20 23 $\frac{1}{2}$	20 25 $\frac{1}{2}$	197 5	195 33 $\frac{1}{2}$	196 16	195 51 $\frac{1}{2}$	
27.	S. 79 W.	120	20 46	20 40	195 1	193 45	194 27 $\frac{1}{2}$	194 5	
28.	S. 81 W.	136	21 1	21 3 $\frac{1}{2}$	192 34	191 5	191 47 $\frac{1}{2}$	191 27	
29.	S. 76 W.	111	21 30 $\frac{1}{2}$	21 30 $\frac{1}{2}$	190 39	189 42 $\frac{1}{2}$	190 30	190 6 $\frac{1}{2}$	
30.	N. 82 W.	153	21 8 $\frac{1}{2}$	21 11 $\frac{1}{2}$	188 1	187 25 $\frac{1}{2}$	188 12 $\frac{1}{2}$	187 51 $\frac{1}{2}$	
Oct. 1.	S. 83 W.	87	21 21 $\frac{1}{2}$	21 21 $\frac{1}{2}$	186 29	185 47	186 34 $\frac{1}{2}$	186 15	
	English Road, Eaoowe.			21 20 $\frac{1}{2}$				185 26	
	Van Diemen's Road,								
	Tongatabu.			21 4 $\frac{1}{2}$				185 3 $\frac{1}{2}$	
8.	S. 18 W.	61	22 3 $\frac{1}{2}$	22 4 $\frac{1}{2}$	184 44	184 8 $\frac{1}{2}$	184 41 $\frac{1}{2}$	184 40	
9.	S. 50 E.	40	22 29 $\frac{1}{2}$	22 28	185 17	184 51 $\frac{1}{2}$	185 24 $\frac{1}{2}$	185 22 $\frac{1}{2}$	
10.	S. 74 W.	61	22 44 $\frac{1}{2}$	22 45 $\frac{1}{2}$	184 13	183 29 $\frac{1}{2}$	183 59	184 0	
	Pylestaart Island.			22 23 $\frac{1}{2}$				184 12	
11.	S. 42 W.	88	23 50 $\frac{1}{2}$	23 49 $\frac{1}{2}$	183 8	182 10 $\frac{1}{2}$	182 21	182 40 $\frac{1}{2}$	
12.	S. 19 W.	110	25 34	25 36 $\frac{1}{2}$	182 28	181 16	181 44 $\frac{1}{2}$	181 45 $\frac{1}{2}$	
13.	S. 13 W.	100	27 13 $\frac{1}{2}$	27 13 $\frac{1}{2}$	182 3	180 25 $\frac{1}{2}$	180 54 $\frac{1}{2}$	180 54 $\frac{1}{2}$	
14.	S. 12 W.	97	28 47 $\frac{1}{2}$	28 46	181 40	179 45 $\frac{1}{2}$	180 13 $\frac{1}{2}$	180 13 $\frac{1}{2}$	
15.	S. 9 W.	93	30 19	30 16	181 24	179 30 $\frac{1}{2}$	179 59	179 58 $\frac{1}{2}$	
16.	S. 8 W.	89	31 41 $\frac{1}{2}$	31 41 $\frac{1}{2}$	181 10	179 27 $\frac{1}{2}$	179 55 $\frac{1}{2}$	179 55 $\frac{1}{2}$	
17.	S. 1 $\frac{1}{2}$ E.	63	32 42 $\frac{1}{2}$	32 41 $\frac{1}{2}$	181 11 $\frac{1}{2}$	179 26 $\frac{1}{2}$	179 55	179 54	
18.	S. 11 E.	83	34 3 $\frac{1}{2}$	33 46 $\frac{1}{2}$	181 27	179 48 $\frac{1}{2}$	180 17	180 15 $\frac{1}{2}$	
19.	S. 7 E.	130	35 57	35 58	181 46	179 47 $\frac{1}{2}$	180 16	180 14	
20.	S. 14 W.	115	37 49 $\frac{1}{2}$	37 47 $\frac{1}{2}$	181 11 $\frac{1}{2}$	179 33 $\frac{1}{2}$	179 46 $\frac{1}{2}$	179 59 $\frac{1}{2}$	
21.	S. 28 W.	88	38 59 $\frac{1}{2}$	39 6	180 12 $\frac{1}{2}$	178 29 $\frac{1}{2}$	178 30 $\frac{1}{2}$	178 55 $\frac{1}{2}$	
	The Shambles off Table-Head.			39 20				178 20 $\frac{1}{2}$	
	Portland.			39 25				178 12	
22.	S. 50 W.	109	40 15 $\frac{1}{2}$	40 14	178 23 $\frac{1}{2}$	176 45 $\frac{1}{2}$	176 46 $\frac{1}{2}$	177 11	
	Cape Turnagain.			40 28				176 56	
23.	S. 64 W.	33	40 28 $\frac{1}{2}$	40 28 $\frac{1}{2}$	177 44	176 36	176 35 $\frac{1}{2}$	177 2	
24.	S. 26 W.	78	41 38 $\frac{1}{2}$	41 39	176 58 $\frac{1}{2}$	176 12 $\frac{1}{2}$	176 12 $\frac{1}{2}$	176 38 $\frac{1}{2}$	
25.	S. 38 W.	55	42 21 $\frac{1}{2}$	42 23	176 12 $\frac{1}{2}$			175 54	
26.	S. 65 W.	15	42 29	42 27	175 59 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 42 $\frac{1}{2}$	
27.	N. 10 W.	52	41 36	41 35 $\frac{1}{2}$	175 47 $\frac{1}{2}$	175 25 $\frac{1}{2}$	175 25	175 51 $\frac{1}{2}$	
28.	S. 13 W.	43	42 17	42 16 $\frac{1}{2}$	175 34 $\frac{1}{2}$	175 16 $\frac{1}{2}$	175 16	176 42 $\frac{1}{2}$	
29.	N. 24 E.	40	41 39	41 45 $\frac{1}{2}$	175 52 $\frac{1}{2}$	175 46 $\frac{1}{2}$	175 46 $\frac{1}{2}$	176 12 $\frac{1}{2}$	

1773	Course	Distance. Miles.	Latitude South		Longitude East			Corrected	Swell sets.
			By Account	By Observation	By Account	By Watch K	By Observation		
Oct 30	S. 64 W	73	42 17	42 13½	174 24½			174 55	
Nov 1	S 58 E	19	42 23½	42 19	174 46½			175 26½	
Nov 2	N 54 W	48	41 51	41 51	173 55½			174 45	
Queen Charlotte's Sound									
Nov 27	S 14 E	107	43 26½	43 26½	175 24	175 55½		174 18	
Nov 28	S 20 E	56	44 19	44 19	175 50½	176 32½		175 56½	N E
Nov 29	S 14 E	15	44 35½	44 36½	175 56½	176 57½		176 34½	N E
Nov 30	S 45 E	107	45 51½	45 49½	177 43½	178 23½		176 0	N E
Dec 1	S 38 E	93	47 2½	47 4½	179 6½	179 27		178 28½	N E
Dec 2	S 35 E	93	48 19	48 21½	180 28			179 33½	N E
Dec 3	S 27 E	39	48 56½	48 56½	180 54			180 56	N E
Dec 4	S 17 W	68	50 1	50 1	180 23½			181 23	N E
Dec 5	S 70 W	44	50 16	50 14½	179 19½	179 38½	180 4	180 53½	N E
Dec 6	S 6 W	31	50 45	50 54½	179 14½	179 33½	179 58½	179 50½	N E
About eight in the evening, passed directly over the antipodes to London									
Dec 7	S 9 E	131	53 6½	53 7½	179 48½	180 18	180 43½	180 33	N E
Dec 8	S 6 E	160	55 47	55 39	180 20½	181 26	181 54	181 42½	N E
Dec 9	S 6 E	126	57 45	58 2	180 44½	182 44	182 21½	182 22½	N E
Dec 10	S 43 E	98	59 9½	59 4½	182 44½			184 56½	N E
Dec 11	S 27 E	116	60 54	60 44½	184 15	186 53½	187 10½	187 14½	N E
Dec 12	S 30 E	143	62 48½	62 46½	186 44	189 28½	189 45½	189 51	N E
Dec 13	S 52 E	92	63 42½	63 39½	189 29			193 19	N E
Dec 14	S 52 E	129	65 2½	64 55	192 14	196 37½	196 54½	197 3	N E
Dec 15	S 60 E	100	65 46	65 42	195 46			200 38	N E
Dec 16	S 43 E	28	64 24½	64 16	198 7			203 4	N E
Dec 17	S 66 E	51	64 36	64 35	199 57	204 30	204 47	204 58	N E
Dec 18	S 83 E	87	64 25½	64 27	203 12			208 27	N E
Dec 19	S 75 E	73	64 44½	64 47½	205 59	211 0	210 27	211 27½	N E
Dec 20	S 23 E	75	65 56	65 58	207 10	211 47½	211 14½	212 11½	N E
Dec 21	S 34 E	60	66 47	66 48	208 34½			213 54½	N E
Dec 22	S 69 E	104	67 25	67 26½	212 50½			218 26½	N E
Dec 23	S 83 E	93	67 15½	67 12½	216 52½	222 19	221 46	222 45	N E
Dec 24	S 58½ W	19	67 18½	67 17	216 27½	222 41½	222 15½	223 7	N E
Dec 25	S 49 E	83	66 24	66 21½	219 9½			225 9½	N E
Dec 26	S 56 E	14	66 13½	66 14½	219 39	225 54½	225 28½	226 19½	N E
Dec 27	S 80 E	25	65 53	65 53½	220 9	226 38½	226 12½	227 3	N E
Dec 28	S 9 W	92	64 23	64 18	219 47			226 19	N E
Dec 29	S 11 E	111	62 32½	62 23	220 13	225 55	225 29	226 19	N E
Dec 30	S 30 W	84½	61 19½	61 5	218 49			225 22	N E
Dec 31	S 11 W	83	59 59	59 40	218 11	224 47½	224 21½	225 11	N E
1774									
Jan 1	N 24 W	30	59 13	59 11½	217 46	223 47½	223 21½	224 10½	N E
Jan 2	N 22 W	74	58 5	57 58	216 51	222 54	222 28	223 16½	N E
Jan 3	N 50½ W	125	56 38	56 46½	214 11	220 25½	219 59½	220 48	N E
Jan 4	N 16½ E	106	55 7	54 55½	215 8			221 22½	N E

ON BOARD THE RESOLUTION.

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1774.		Course.	Distance.	Latitude South		Longitude East.				Swell Sea.
				By Account.	By Observation.	By Account.	By Watch.	By Observation.	Corrected.	
			Miles.	°.	°.	°.	°.	°.	°.	
Jan.	5.	N. 37 E.	94	53 40 $\frac{1}{2}$	53 43 $\frac{1}{2}$	216 41	222 11 $\frac{1}{2}$	221 45 $\frac{1}{2}$	222 33	E.
6.	N. 29 E.	89	52 25	51 49 $\frac{1}{2}$	218 17	224 24	225 0 $\frac{1}{2}$	224 45 $\frac{1}{2}$	E.	
7.	N. 42 E.	113	50 35	50 36 $\frac{1}{2}$	220 21	226 35 $\frac{1}{2}$	226 55 $\frac{1}{2}$	226 56 $\frac{1}{2}$	E.	
8.	N. 42 E.	111	49 14	49 7 $\frac{1}{2}$	222 25	228 52 $\frac{1}{2}$	228 56 $\frac{1}{2}$	229 13 $\frac{1}{2}$	E.	
9.	N. 74 E.	161	48 23 $\frac{1}{2}$	48 17	226 42	232 44 $\frac{1}{2}$	233 13 $\frac{1}{2}$	233 5	E.	
10.	N. 84 $\frac{1}{2}$ E.	97	48 7 $\frac{1}{2}$	48 7 $\frac{1}{2}$	229 6	235 2	235 30 $\frac{1}{2}$	235 22		
11.	N. 42 E.	111	47 52 $\frac{1}{2}$	47 51 $\frac{1}{2}$	231 47	237 32 $\frac{1}{2}$	238 0 $\frac{1}{2}$	237 52 $\frac{1}{2}$		
12.	S. 45 E.	145	49 34	49 34	234 22	240 3 $\frac{1}{2}$	240 32 $\frac{1}{2}$	240 23 $\frac{1}{2}$		
13.	S. 21 E.	159	52 3	52 1 $\frac{1}{2}$	235 52			241 52 $\frac{1}{2}$		
14.	S. 24 W.	125	53 56	53 55 $\frac{1}{2}$	234 28	240 8 $\frac{1}{2}$	240 37	240 27 $\frac{1}{2}$		
15.	S. 28 W.	154	56 11	56 5	232 22			238 1	S. E.	
16.	S. 74 E.	89		56 18 $\frac{1}{2}$	234 50	240 27	240 52 $\frac{1}{2}$	240 46 $\frac{1}{2}$		
17.	S. 16 E.	147	58 39	58 34	235 57	241 37 $\frac{1}{2}$	242 3 $\frac{1}{2}$	241 57 $\frac{1}{2}$		
18.	S. 15 E.	147	60 55 $\frac{1}{2}$	60 54 $\frac{1}{2}$	237 17	242 59 $\frac{1}{2}$	243 0 $\frac{1}{2}$	243 19 $\frac{1}{2}$		
19.	S. 7 E.	57	61 52	61 50	237 32			243 28 $\frac{1}{2}$	E. S. E.	
20.	S. 21 E.	49	62 37	62 34 $\frac{1}{2}$	238 9	243 38 $\frac{1}{2}$	243 43 $\frac{1}{2}$	243 59 $\frac{1}{2}$	S. E.	
21.	N. 6 E.	7	62 27 $\frac{1}{2}$	62 26 $\frac{1}{2}$	238 11	243 25 $\frac{1}{2}$	243 30 $\frac{1}{2}$	243 46 $\frac{1}{2}$		
22.	N. 77 E.	116	61 59	61 56	242 18			247 34 $\frac{1}{2}$		
23.	S. 81 E.	80	62 12	62 22	245 0	249 35 $\frac{1}{2}$	249 40 $\frac{1}{2}$	249 57 $\frac{1}{2}$	N. N. E.	
24.	S. 43 $\frac{1}{2}$ E.	104	63 37 $\frac{1}{2}$	63 37	247 37 $\frac{1}{2}$			252 12		
25.	S. bW. $\frac{1}{2}$ W.	110 $\frac{1}{2}$	65 25	65 24 $\frac{1}{2}$	246 95	250 25	250 30	250 47 $\frac{1}{2}$		
26.	S. 2 W.	63	66 28 $\frac{1}{2}$	66 35 $\frac{1}{2}$	246 29	250 17 $\frac{1}{2}$	250 22 $\frac{1}{2}$	250 40 $\frac{1}{2}$	S. W.	
27.	S. 12 E.	79	67 53	67 51 $\frac{1}{2}$	247 11			251 30	S. W.	
28.	S. 2 E.	100	69 31	69 30 $\frac{1}{2}$	247 20 $\frac{1}{2}$			251 47 $\frac{1}{2}$		
29.	S. 34 E.	34	69 59 $\frac{1}{2}$	69 58 $\frac{1}{2}$	248 14	252 24	252 29	252 48		
Tacked from the ice.				71 7 $\frac{1}{2}$				253 1 $\frac{1}{2}$		
30.	S. 17 E.	53	70 45	70 46	248 54			253 29		
31.	N. 5 E.	95	69 11	69 13	249 18			253 53		
Feb.	1.	N. 21 E.	74	68 3	68 1	250 34	254 43 $\frac{1}{2}$	254 48 $\frac{1}{2}$	255 10 $\frac{1}{2}$	S. W.
2.	N. 33 E.	62	67 9	67 7 $\frac{1}{2}$	252 5			256 37		
3.	N. 50 E.	65	66 25 $\frac{1}{2}$	66 25	254 9	258 26	258 31	258 36		
4.	N. 32 E.	44	65 47 $\frac{1}{2}$	65 41 $\frac{1}{2}$	255 15	259 47 $\frac{1}{2}$	260 11 $\frac{1}{2}$	260 18 $\frac{1}{2}$		
5.	N. 5 $\frac{1}{2}$ W.	99	64 4 $\frac{1}{2}$	64 5	254 53	259 36	260 0 $\frac{1}{2}$	260 9	S.	
6.	N. 42 E.	17	63 52	63 53 $\frac{1}{2}$	255 14			261 11 $\frac{1}{2}$		
7.	N. 2 E.	157 $\frac{1}{2}$	61 17	61 5 $\frac{1}{2}$	255 27	261 30	261 54 $\frac{1}{2}$	262 6		
8.	North.	177	58 8 $\frac{1}{2}$	58 4	255 27			262 29		
9.	N. $\frac{1}{2}$ W.	165	55 41 $\frac{1}{2}$	55 42	255 1			262 26		
10.	N. $\frac{1}{2}$ E.	127	53 34	53 36 $\frac{1}{2}$	255 5	262 14	262 38 $\frac{1}{2}$	262 54 $\frac{1}{2}$		
11.	N. 31 E.	134	51 42 $\frac{1}{2}$	51 37 $\frac{1}{2}$	256 59	263 52	264 16 $\frac{1}{2}$	264 34		
12.	N. $\frac{1}{2}$ E.	81	50 16 $\frac{1}{2}$	50 15	257 6	263 54 $\frac{1}{2}$	264 19	264 38 $\frac{1}{2}$		
13.	West.	32	50 16 $\frac{1}{2}$	50 12 $\frac{1}{2}$	256 34	263 15 $\frac{1}{2}$	263 39 $\frac{1}{2}$	264 0 $\frac{1}{2}$		
14.	N. 13 E.	43	49 32	49 29	256 49	263 21 $\frac{1}{2}$	263 46	264 8 $\frac{1}{2}$	N. E.	
15.	N. 33 W.	36	49 2	48 55	256 21	262 36	263 0 $\frac{1}{2}$	263 24		
16.	N. 44 $\frac{1}{2}$ E.	100	47 42	47 55	258 7			265 3		
17.	N. 28 E.	94	46 22	46 17 $\frac{1}{2}$	259 16	265 18 $\frac{1}{2}$	265 42 $\frac{1}{2}$	266 9 $\frac{1}{2}$		
18.	N. 3 W.	123	44 15	44 10 $\frac{1}{2}$	259 7	265 13 $\frac{1}{2}$	266 1 $\frac{1}{2}$	266 5 $\frac{1}{2}$		

1774	Coorfe	Dir (ance.)	Latitude South		Longitude East				Swell sets
			By Ac-	By Obser-	By Ac-	By Watch	By Obser-	Corrected	
			count	vation	count	h	vation	o	
Feb 19	N 22 W	137	42 3	42 51	257 53	264 31	264 7	264 57	
20	N 16 E	124	40 7	39 59	258 43	264 53	264 54	265 49	
21	N 19 E	130	37 56	37 53	259 38	265 26	266 17	266 23	
22	N 22 W	109	36 13	36 10	258 48	264 38	265 29	265 36	
23	S 71 W	107	36 45	36 41	256 44	262 26	263 18	263 25	
24	S 62 W	98	37 27	37 27	254 54	260 42	262 30	261 42	
25	S 78 W	124	37 52	37 53	252 24	258 25	260 14	259 20	
26	N 36 W	92	36 40	36 39	251 24	257 29	259 17	258 31	
27	N 11 W	101	35 04	34 54	250 59	256 52	256 41	257 55	
28	N 5 W	101	33 14	33 9	250 48	256 37	257 44	257 40	
March 1	N 8 W	55	32 15	32 17	250 39	256 23	257 52	257 26	
2	N 11 E	56	31 22	31 13	250 55	256 41	258 2	257 45	
3	N 44 E	44	30 42	30 36	251 31	257 22	258 29	258 26	
4	N 39 E	52	29 56	29 58	252 7	258 5	259 13	259 10	
5	N 55 E	24	29 44	29 44	252 29	258 21	259 1	259 27	
6	N 51 W	36	29 21	29 21	251 57	257 52	258 55	258 58	
7	N 40 W	81	28 19	28 19	250 59	256 44	257 54	257 51	
8	N 50 W	121	27 1	27 4	249 15	254 56	256 0	256 1	
9	S 89 W	106	27 6	27 6	247 16	252 59	254 35	254 7	
10	S 89 W	97	27 8	27 9	245 28	250 57	252 33	252 6	
11	S 88 W	52	27 11	27 10	244 30	249 48	251 23	250 57	
12	S 64 W	10	27 15	27 17	244 20			250 48	
	Easter Island							250 8	
17	N 65 W	48	26 47	26 48	243 10	248 19	249 2	249 33	
18	N 45 W	60	26 5	26 4	242 23	247 29	248 55	248 44	
19	N 24 W	83	24 49	24 51	241 46	247 1	248 5	248 14	
20	N 13 W	113	23 1	23 1	241 18	246 14	247 18	247 32	
21	N 20 W	126	21 2	21 3	240 31	245 24	246 24	246 42	
22	N 24 W	111	19 21	19 21	239 43	244 22	245 20	245 41	
23	N 41 W	92	18 11	18 9	238 37	243 2	244 0	244 22	
24	N 43 W	78	17 13	17 6	237 34	241 56	242 54	243 17	
25	N 45 W	103	15 54	16 1	236 18	240 39	241 3	242 2	
26	N 45 W	112	14 42	14 45	234 55	239 13	240 11	240 37	
27	N 45 W	122	13 19	13 13	233 20	237 38	238 36	239 3	
28	N 45 W	123	11 45	11 45	231 50	236 2	237 0	237 28	
29	N 45 W	125	10 21	10 20	230 22	234 31	236 10	235 59	
30	N 65 W	131	9 29	9 22	228 19	232 35	234 4	233 54	
31	N 88 W	112	9 18	9 17	226 25	230 16	232 1	231 47	
April 1	S 82 W	102	9 31	9 29	224 43	228 21	229 51	229 53	
2	S 89 W	90	9 31	9 28	223 11	226 32	228 24	228 6	
3	S 88 W	84	9 31	9 32	221 46	224 49	226 57	226 24	
4	S 89 W	96	9 33	9 3	220 08	223 1	225 2	224 38	
5	S 89 W	84	9 34	9 33	218 43	221 21	223 21	223 0	
6	N 80 W	71	9 21	9 19	217 32	220 2	221 57	221 42	
7	S 54 W	47	9 47	9 47	216 52	219 12	221 16	220 54	
	Hood's Island							221 8	

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1774	Courf	Dir tance	Latitude		Longitude				Co. d. d.	Sw. H. H.
			By Ac count	By Obser vation	By Ac count	By Wit h	By Obser vation			
		Wiles								
	Island	11		20 31 $\frac{1}{4}$					185 30 $\frac{1}{2}$	
	Tonamal			20 28					195 28 $\frac{1}{2}$	
	Cominango			20 19 $\frac{1}{2}$					185 31	
	Cominango ette			20 18 $\frac{1}{2}$					185 32	
	Annamocka			20 16					185 29 $\frac{1}{2}$	
	Annamocka ette			20 17 $\frac{1}{2}$					185 27	
	Aggoau			19 39 $\frac{1}{4}$					185 17	
	Mattafoa			19 44 $\frac{1}{2}$					185 13	
	Others extend from			19 37 $\frac{1}{2}$					185 10	
	to			20 32 $\frac{1}{2}$					185 50	
June 29	North	5	20 10	20 5 $\frac{3}{4}$	185 32 $\frac{1}{2}$		185 2 $\frac{1}{2}$	185 31 $\frac{1}{2}$		
July 1	S 40 W	24	19 52	19 51 $\frac{1}{2}$	185 14 $\frac{1}{2}$		184 33	184 33 $\frac{1}{2}$		
July 2	S 88 W	85	19 55 $\frac{1}{4}$	19 54 $\frac{1}{2}$	183 44	183 26 $\frac{1}{2}$	182 52 $\frac{1}{2}$	183 58 $\frac{1}{2}$		
July 3	S 84 W	82	20 2 $\frac{3}{4}$	20 3 $\frac{1}{4}$	182 17	181 48	181 52 $\frac{1}{2}$	182 20		
	N 40 W	19	19 48 $\frac{1}{4}$	19 47	182 4 $\frac{1}{2}$	181 31 $\frac{1}{2}$	181 56	182 3		
	Turtle Island			19 48 $\frac{3}{4}$				182 3		
	Reef off it			19 53 $\frac{1}{2}$				181 58		
4	S 48 W	29	20 6	20 4 $\frac{3}{4}$	181 41 $\frac{1}{2}$	181 17 $\frac{1}{2}$	181 48 $\frac{3}{4}$	181 33 $\frac{1}{2}$		
5	S 62 W	74	20 40	20 28 $\frac{1}{2}$	180 30 $\frac{1}{2}$	179 52 $\frac{1}{2}$	180 33 $\frac{1}{2}$	180 21 $\frac{1}{2}$		
6	S 72 W	63	20 58 $\frac{1}{2}$	20 55 $\frac{1}{2}$	179 27	178 42 $\frac{1}{2}$	179 23 $\frac{1}{2}$	179 14		
7	N 86 W	54	20 51	20 50 $\frac{1}{2}$	178 10	177 50	178 31 $\frac{1}{2}$	178 21 $\frac{1}{2}$		
8	N 77 W	65	20 36 $\frac{1}{2}$	20 36 $\frac{1}{2}$	177 23	176 44	177 25 $\frac{1}{2}$	177 15 $\frac{1}{2}$		
9	N 71 W	59	20 23 $\frac{1}{2}$	20 23 $\frac{1}{2}$	176 23	175 41	176 22 $\frac{1}{2}$	176 1		
10	N 47 W	47	19 51	19 53 $\frac{1}{2}$	175 46	174 57 $\frac{1}{2}$	175 39 $\frac{1}{2}$	175 29		
11	N 24 W	96	18 26	18 26 $\frac{1}{2}$	175 4	174 25 $\frac{1}{2}$	175 7 $\frac{1}{2}$	174 57		
12	N 52 W	85	17 19	17 20 $\frac{1}{2}$	174 8	173 37 $\frac{1}{2}$	174 18 $\frac{1}{2}$	174 9		
13	N 41 W	70	16 27 $\frac{1}{2}$	16 25 $\frac{1}{2}$	173 20	172 51 $\frac{1}{2}$	173 28 $\frac{1}{2}$	173 23 $\frac{1}{2}$		
14	N 45 W	60	15 43	15 39 $\frac{1}{2}$	172 35	172 0 $\frac{1}{2}$	172 24	172 32 $\frac{1}{2}$		
15	N 65 W	69	15 10 $\frac{1}{4}$	15 9 $\frac{1}{4}$	171 30	170 47 $\frac{1}{2}$	171 26 $\frac{1}{2}$	171 20 $\frac{1}{2}$		
16	S 89 W	121	15 11 $\frac{1}{4}$	15 5	169 25	168 40 $\frac{1}{2}$	169 18 $\frac{1}{2}$	169 13 $\frac{1}{2}$		
17	N 81 W	28	15 0 $\frac{1}{2}$	14 59 $\frac{1}{4}$	168 56			168 42		
18	S 83 W	34	15 4 $\frac{1}{2}$	15 1 $\frac{1}{2}$	168 21	167 31 $\frac{1}{2}$	168 10 $\frac{1}{2}$	168 11		
19	S 3 W	24	15 24 $\frac{1}{2}$	15 12 $\frac{1}{2}$	168 18	167 37 $\frac{1}{2}$	168 16 $\frac{1}{2}$	168 13		
	Aurora, { North End		14 52					168 20 $\frac{1}{2}$		
	{ South End		15 24					168 10 $\frac{1}{2}$		
	Leper's Island, { N E End		15 16 $\frac{1}{2}$					167 45 $\frac{1}{2}$		
	{ S W End		15 30					168 15 $\frac{1}{2}$		
20	S 65 E	15	15 18 $\frac{1}{2}$	15 28 $\frac{1}{2}$	168 32	167 41 $\frac{1}{2}$	168 24 $\frac{1}{2}$	168 1 $\frac{1}{2}$		
21	S 22 W	39	16 4 $\frac{1}{2}$	16 17 $\frac{1}{2}$	168 12	167 27	168 9 $\frac{1}{2}$	168 21 $\frac{1}{2}$		
	Whitfun Id. { N End		15 28 $\frac{1}{2}$	16 0 $\frac{1}{2}$				168 19		
	{ S End		16 4					168 21 $\frac{1}{2}$		
	Ambrym, { N E End		16 15					167 53		
	{ W End		16 25 $\frac{1}{2}$					167 57 $\frac{1}{2}$		
	Sandwich Harbour		16 24 $\frac{1}{2}$					167 59		
3	Cape Sandwich		16 28		167 21 $\frac{1}{2}$	168 13 $\frac{1}{2}$		167 58 $\frac{1}{2}$		
	Maskelyne's Islands, {		16 30					168 1 $\frac{1}{2}$		
	{		16 33 $\frac{1}{2}$							

ON BOARD THE RESOLUTION.

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1774.	Course.	Dis- tance.	Latitude South		Longitude East				Swell late.
			By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.	
		Miles.	°	′	°	′	°	′	
o July 24.	Maskelyne's Islands,	{	16	32½	168 27				167 59½
	Paoom.		16	33					167 57½
	S. 23 E. 26 16 48		16	30					168 28½
	Apæ, { South East End.		16	59					168 26½
	{ North West End.		16	53½					168 37
	Three-Hill Island.		16	39					168 18
	Its western Hummock.		17	4					168 35
	Reef of its West End.		17	5					168 32
			17	8½					168 28½
			16	56					168 41½
			16	52					168 42
	Shepherd's Islands,		16	58					168 43½
			17	1					168 42
			17	1½					168 43½
			17	3½					168 43
	One-Hill Island.	17	7½	168 36					
	Two-Hill Island.	17	13	168 35½					
	The Monument.	17	14½	168 38½					
d — 25.	S. 26 E. 31 17 15½	17	18½	168 42	168 1½	168 53½	168 37½		
d — 26.	S. 38 E. 14 17 29	17	31	168 53	168 0	168 52	168 41		
	Sandwich's Island from	{	17	29			168 20½		
			17	53			168 45½		
	Hinchinbrook Island.		17	25			168 38		
	Montagu Island.		17	26			168 31½		
d — 27.	S. 58 E. 55 18 0½	18	0½	169 42	168 42	169 42½	169 19½		
d — 28.	S. 56 E. 47 18 26½	18	24½	170 22	169 9½	169 30½	169 47½		
d — 29.	S. 50 E. 14 18 34½	18	30½	170 34	169 28	170 15½	170 6½		
d — 30.	S. 72 W. 34 18 41	18	33½	170 0	169 1½	169 49½	169 42½		
d — 31.	N. 27 W. 13 18 22½	18	21	169 53	168 55½	169 20½	169 34½		
d Aug. 1.	S. 46 W. 33 18 44	18	31½	169 28	168 33½	169 0	169 13½		
d — 2.	S. 50 W. 15 18 46½	18	46½	169 16	168 26	169 10½	169 27½		
	Traitor's Head.		18	43½			169 20½		
	Small Island off it.		18	41			169 26		
	Erramanga from	{	18	36½			169 9		
			18	56½			169 28		
d — 3.	N. 70 E. 22 18 38	18	36½	169 38	168 47½	169 17½	169 18½		
	Tanna from	{	19	16½			169 21		
			19	38½			169 43		
	Port Resolution, in Tanna.		19	32½			169 44½		
	Immer.		19	16			169 46		
	Irraname.		19	31			170 21		
	Enatum.		20	10			170 4		
d — 20.			19	24			169 46		
d — 21.	S. 79 E. 32 19 32½	19	33½	170 11	169 18½	170 29	170 4½		
d — 22.	N. 50 W. 97 18 19½	18	18½	169 4	168 0½	169 11½	168 47½		
d — 23.	N. 28 W. 133 16 21	16	23½	167 59	166 49½	168 0½	167 35½		

[illegible]

1774.	Course.	Distance.	Latitude South.		Longitude East.				Ship rolls.	Swell sets.
			By Account.	By Observation.	By Account.	By Watch K.	By Observation.	Corrected.		
h Oct. 1.	S. 66 E.	58	22 58	22 56 $\frac{1}{2}$	169 43	167 33 $\frac{1}{2}$	168 30 $\frac{1}{2}$	168 18 $\frac{1}{2}$		
o — 2.	S. 26 E.	52	23 19 $\frac{1}{2}$	23 19 $\frac{1}{2}$	170 33	168 47 $\frac{1}{2}$	169 56 $\frac{1}{2}$	169 32 $\frac{1}{2}$		N. E.
h — 3.	S. 28 E.	68	24 19 $\frac{1}{2}$	24 4 $\frac{1}{2}$	170 59	169 27 $\frac{1}{2}$	170 36 $\frac{1}{2}$	170 13 $\frac{1}{2}$		N. E.
h — 4.	S. 26 E.	81	25 17	25 28	171 44	170 31	171 40 $\frac{1}{2}$	171 17 $\frac{1}{2}$		
h — 5.	S. 9 E.	87	26 53 $\frac{1}{2}$	26 53	171 59	170 50 $\frac{1}{2}$	172 0	171 37 $\frac{1}{2}$		
h — 6.	S. 4 E.	62	27 54 $\frac{1}{2}$	27 52	172 3 $\frac{1}{2}$	170 58 $\frac{1}{2}$	172 4 $\frac{1}{2}$	171 45 $\frac{1}{2}$		
h — 7.	S. 79 W.	3	27 52 $\frac{1}{2}$	27 52	172 0 $\frac{1}{2}$	170 57	172 3	171 45		
h — 8.	S. 62 W.	71	28 25 $\frac{1}{2}$	28 24 $\frac{1}{2}$	170 49	169 42 $\frac{1}{2}$	171 3 $\frac{1}{2}$	170 31		
o — 9.	S. 58 W.	63	28 58	28 54 $\frac{1}{2}$	169 48	168 35 $\frac{1}{2}$	168 57 $\frac{1}{2}$	169 24 $\frac{1}{2}$		
h — 10.	S. 88 W.	57	28 58	28 57 $\frac{1}{2}$	168 42	167 21	168 14 $\frac{1}{2}$	168 10		
Norfolk Island.				29 1 $\frac{1}{2}$				168 10		
h — 11.	S. 11 E.	23	29 20	29 21 $\frac{1}{2}$	168 47	167 19 $\frac{1}{2}$	167 41 $\frac{1}{2}$	168 8		
h — 12.	South.	100.7	31 1 $\frac{1}{2}$	31 1 $\frac{1}{2}$	168 47	167 2 $\frac{1}{2}$	167 30 $\frac{1}{2}$	167 50 $\frac{1}{2}$		
h — 13.	S. 15 E.	106	32 43 $\frac{1}{2}$	32 54 $\frac{1}{2}$	169 21	167 35	168 26	168 22 $\frac{1}{2}$		
h — 14.	S. 39 E.	87	34 2	34 2 $\frac{1}{2}$	170 26	168 41 $\frac{1}{2}$	169 17 $\frac{1}{2}$	169 28 $\frac{1}{2}$		
h — 15.	S. 41 E.	119	35 32	35 32	172 2	170 11 $\frac{1}{2}$	170 47 $\frac{1}{2}$	170 56 $\frac{1}{2}$		
o — 16.	S. 34 E.	140	37 28	37 33	173 42	171 55 $\frac{1}{2}$	172 31 $\frac{1}{2}$	172 40 $\frac{1}{2}$		
h — 17.	S. 28 E.	120	39 19	39 24	174 57	173 1 $\frac{1}{2}$	173 36 $\frac{1}{2}$	173 45 $\frac{1}{2}$		
Q. Charlotte's Sound.				41 6				174 18 $\frac{1}{2}$		
It being a matter curious in itself, and perhaps of some use, to know the greatest angle which a ship lies down to, when going on a wind, or that she rolls when going before it in a high sea, I contrived, whilst in the Sound, to fix a graduated circle to one of the beams of the ship that passed through my cabin: an axis, passing through the center, carried a long slender rod, which had a pretty large leaden ball fixed to its lower end, whilst the upper end, above the center, served as an index to point out the degree which the ship rolled to, on the circle. The axis moved smoothly in its socket, and just free enough to let the ball turn it as the ship rolled. The upper end of the rod was adjusted to point exactly to O when the ship was upright in the Sound, and for the remainder of this Journal I have added another column, wherein is inserted the degrees to which, at different times, I observed the above-mentioned index point to.										
h Nov. 11.	S. 33 E.	69	42 20 $\frac{1}{2}$	42 21 $\frac{1}{2}$	175 29	175 22 $\frac{1}{2}$	174 54 $\frac{1}{2}$	175 15 $\frac{1}{2}$		
h — 12.	S. 22 E.	64	43 20 $\frac{1}{2}$	43 13 $\frac{1}{2}$	176 2	175 50 $\frac{1}{2}$	175 27 $\frac{1}{2}$	175 43 $\frac{1}{2}$		
o — 13.	S. 39 E.	83	44 18	44 32	177 14	177 13	176 50 $\frac{1}{2}$	177 6		
h — 14.	S. 41 E.	108	45 39 $\frac{1}{2}$	46 7 $\frac{1}{2}$	178 54			178 52	14	
h — 15.			47 5	47 47 $\frac{1}{2}$	181 15 $\frac{1}{2}$	181 11 $\frac{1}{2}$	180 49 $\frac{1}{2}$	181 4 $\frac{1}{2}$	09	
h — 16.	S. 42 E.	124	49 19 $\frac{1}{2}$	49 33 $\frac{1}{2}$	183 39 $\frac{1}{2}$	183 26 $\frac{1}{2}$	183 4 $\frac{1}{2}$	183 19 $\frac{1}{2}$	23	
It was this afternoon discovered, that the preceding differences between the log and observed latitudes were owing to the log-line having been marked, by mistake, a whole knot wrong: Corrected it.										
h — 17.	S. 41 E.	127	51 8 $\frac{1}{2}$	51 10 $\frac{1}{2}$	185 50 $\frac{1}{2}$	185 57 $\frac{1}{2}$	185 35 $\frac{1}{2}$	185 50	40 $\frac{1}{2}$	
h — 18.	S. 50 E.	141	52 39	52 44 $\frac{1}{2}$	188 45 $\frac{1}{2}$	188 58 $\frac{1}{2}$	188 36 $\frac{1}{2}$	188 50 $\frac{1}{2}$		
h — 19.	S. 64 $\frac{1}{2}$ E.	137	53 44 $\frac{1}{2}$	53 41 $\frac{1}{2}$	192 21 $\frac{1}{2}$			192 53		
o — 20.	S. 76 E.	134	54 13	54 12 $\frac{1}{2}$	196 4 $\frac{1}{2}$			197 2 $\frac{1}{2}$	14 $\frac{1}{2}$	
h — 21.	S. 30 E.	101	55 40	55 39	197 34 $\frac{1}{2}$			198 59		
h — 22.	S. 85 E.	118	55 50 $\frac{1}{2}$	55 48 $\frac{1}{2}$	201 4 $\frac{1}{2}$	203 4 $\frac{1}{2}$	192 42 $\frac{1}{2}$	202 55 $\frac{1}{2}$	30	

1774	Course	Distance Miles	Latitude South		Longitude				Ship roll	Swell
			By Ac count	By Obser vation	By Ac count	By Watch L.	By Obser vation	Corrected		
Nov 23	N 82 E	45	55 42	55 42 $\frac{1}{2}$	202 24 $\frac{1}{2}$	204 49	204 26 $\frac{1}{2}$	204 39 $\frac{1}{2}$	33	
24	N 86 E	80	55 37	55 32 $\frac{1}{2}$	204 47	207 18 $\frac{1}{2}$	206 56 $\frac{1}{2}$	207 9 $\frac{1}{2}$	10	
25	N 80 E	141	55 7 $\frac{1}{2}$	55 9 $\frac{1}{2}$	208 49	211 55 $\frac{1}{2}$	211 32	211 15 $\frac{1}{2}$	14	
26	N 89 E	168	55 6 $\frac{1}{2}$	55 6	213 42			16 53	15	
27	N 89 E	183	55 2 $\frac{1}{2}$	55 3	219 2	222 38	22 15 $\frac{1}{2}$	22 27 $\frac{1}{2}$	13	
28	S 82 E	166	55 24	55 25 $\frac{1}{2}$	223 40			227 14 $\frac{1}{2}$		
29	N 88 E	153	55 18 $\frac{1}{2}$	55 22	228 10			31 5 $\frac{1}{2}$	31	
30	S 78 E	39	55 26 $\frac{1}{2}$	55 31 $\frac{1}{2}$	229 17			35 2	13	
Dec 1	N 88 E	56	55 29 $\frac{1}{2}$	55 32	231 3			37 33 $\frac{1}{2}$		
2	N 64 $\frac{1}{2}$ E	90	54 50 $\frac{1}{2}$	54 55 $\frac{1}{2}$	233 26	237 44 $\frac{1}{2}$	237 22 $\frac{1}{2}$	38 38	18	NN
3	N 38 E	70	54 0 $\frac{1}{2}$	54 0 $\frac{1}{2}$	234 41			38 38		
4	N 69 $\frac{1}{2}$ E	117	53 19	53 16 $\frac{1}{2}$	237 49	241 49 $\frac{1}{2}$	241 25 $\frac{1}{2}$	41 16 $\frac{1}{2}$		
5	N 87 E	129	53 8 $\frac{1}{2}$	53 7 $\frac{1}{2}$	241 23 $\frac{1}{2}$	245 22 $\frac{1}{2}$	245 0	45 10 $\frac{1}{2}$		
6	S 89 E	168	53 11	53 10 $\frac{1}{2}$	246 3 $\frac{1}{2}$	249 32 $\frac{1}{2}$	249 10 $\frac{1}{2}$	49 20 $\frac{1}{2}$	38	NN
7	S 86 E	120	53 19	53 19 $\frac{1}{2}$	249 23	252 45	252 17 $\frac{1}{2}$	52 32 $\frac{1}{2}$		
8	S 84 E	99	53 29 $\frac{1}{2}$	53 31	252 7	255 21	255 1 $\frac{1}{2}$	55 11		
9	S 89 L	76	53 32 $\frac{1}{2}$	53 37 $\frac{1}{2}$	254 17			57 17	14	N L
10	S 70 E	64	53 59 $\frac{1}{2}$	53 53 $\frac{1}{2}$	255 58	259 6 $\frac{1}{2}$	258 44 $\frac{1}{2}$	58 53		
11	N 87 E	180	53 49 $\frac{1}{2}$	53 37 $\frac{1}{2}$	261 3	264 2 $\frac{1}{2}$	263 41	63 40		
12			53 42	53 24 $\frac{1}{2}$	265 2	268 4 $\frac{1}{2}$	267 30	67 50		
13	N 89 E	74	53 24	53 23 $\frac{1}{2}$	267 5	270 9 $\frac{1}{2}$	270 39	69 55 $\frac{1}{2}$		
14	S 89 E	127 3	53 26	53 25 $\frac{1}{2}$	270 41	273 27 $\frac{1}{2}$	273 57 $\frac{1}{2}$	73 13 $\frac{1}{2}$		
15	S 87 E	120	53 31 $\frac{1}{2}$	53 30 $\frac{1}{2}$	274 5	276 49 $\frac{1}{2}$	277 19 $\frac{1}{2}$	76 35		
16	N 88 E	132 $\frac{1}{2}$	53 25 $\frac{1}{2}$	53 26 $\frac{1}{2}$	277 50	280 32 $\frac{1}{2}$	281 2 $\frac{1}{2}$	80 18 $\frac{1}{2}$		
17	N 88 $\frac{1}{2}$ L	118	53 24 $\frac{1}{2}$	53 21 $\frac{1}{2}$	281 4	283 41 $\frac{1}{2}$	284 11	83 26 $\frac{1}{2}$		
18	S Cape Disceada			53 4 $\frac{1}{2}$				85 42		
19	S Cape Noir	72 E 114	53 57	54 12 $\frac{1}{2}$	284 9	286 47 $\frac{1}{2}$	287 16 $\frac{1}{2}$	86 31 $\frac{1}{2}$		
20	S 55 E	100	55 10 $\frac{1}{2}$	55 20 $\frac{1}{2}$	286 29	289 16 $\frac{1}{2}$	289 45 $\frac{1}{2}$	89 0 $\frac{1}{2}$		
21	S 67 E	36	55 39 $\frac{1}{2}$	55 39 $\frac{1}{2}$	287 22	290 7 $\frac{1}{2}$	290 36 $\frac{1}{2}$	89 51 $\frac{1}{2}$		
22	Christmas Sound			55 22				89 59 $\frac{1}{2}$		
23				55 32 $\frac{1}{2}$	287 44 $\frac{1}{2}$	290 26 $\frac{1}{2}$	290 18 $\frac{1}{2}$	90 5 $\frac{1}{2}$		
24	St Ildefonso's Isles			55 51				90 32		
25	Cape Horn			55 59				92 34		
26	Barnevelt's Isles			55 49				93 2		
27	Evout's Isles			55 34 $\frac{1}{2}$				93 1		
28				55 43 $\frac{1}{2}$	290 32	293 44 $\frac{1}{2}$	293 36 $\frac{1}{2}$	93 24 $\frac{1}{2}$		
29	S 78 E	92	55 43 $\frac{1}{2}$	55 43 $\frac{1}{2}$	290 56	295 20 $\frac{1}{2}$	295 13 $\frac{1}{2}$	94 59 $\frac{1}{2}$		
30	N 26 E	26	55 20 $\frac{1}{2}$	54 53				94 33		
31	Cape Success			55 1				94 35		
	Success Bay			54 49 $\frac{1}{2}$				95 13 $\frac{1}{2}$		
	East Cape of Staten Land			54 53 $\frac{1}{2}$				94 46		
	Cape St Anthony			54 46 $\frac{1}{2}$				95 43 $\frac{1}{2}$		
	Cape St. Diego,			54 33						
31	N 08 E	23	54 52 $\frac{1}{2}$	54 42 $\frac{1}{2}$	291 46	296 4 $\frac{1}{2}$	295 56 $\frac{1}{2}$			

ON BOARD THE RESOLUTION.

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1774	Course.	Distance.	Latitude South		Longitude East				Ship rolls.	Swell sets.
			By Account.	By Observation.	By Account.	By Watch K.	By Observation.	Corrected.		
		Miles.								
Ship at anchor off New Year's Isle. } 54 41 New Year's Harbour. } 54 48 $\frac{1}{2}$ Cape St. Juan. } 54 47 $\frac{1}{2}$										
1775.										
Jan.	3. S. 8 W.	19	55 3	54 55 $\frac{1}{2}$	291 48	296 15	296 7 $\frac{1}{2}$	295 54		
4.	S. 51 E.	75	55 42 $\frac{1}{2}$	55 32 $\frac{1}{2}$	293 31	298 12 $\frac{1}{2}$	298 4 $\frac{1}{2}$	297 51 $\frac{1}{2}$		N. E.
5.	S. 49 E.	138	57 3 $\frac{1}{2}$	57 8 $\frac{1}{2}$	296 50	301 47 $\frac{1}{2}$	301 40 $\frac{1}{2}$	301 26 $\frac{1}{2}$		
6.	S. 70 E.	118	57 49	57 51 $\frac{1}{2}$	300 17	305 40 $\frac{1}{2}$	305 2	305 19 $\frac{1}{2}$		
7.	N. 46 E.	63	57 7 $\frac{1}{2}$	57 0 $\frac{1}{2}$	301 54	307 11 $\frac{1}{2}$	306 47	306 50 $\frac{1}{2}$		
Sounded: no ground with 150 fathoms.										
8.	N. 26 E.	94	55 32 $\frac{1}{2}$	55 8 $\frac{1}{2}$	303 11	308 19 $\frac{1}{2}$	307 37 $\frac{1}{2}$	307 58 $\frac{1}{2}$		
9.	S. 88 E.	71	55 10 $\frac{1}{2}$	55 11 $\frac{1}{2}$	305 18			310 13 $\frac{1}{2}$		
10.	N. 49 E.	50	54 40	54 35 $\frac{1}{2}$	306 32			311 36 $\frac{1}{2}$		
11.	S. 87 E.	108	54 41 $\frac{1}{2}$	54 36 $\frac{1}{2}$	309 39 $\frac{1}{2}$	315 15 $\frac{1}{2}$	314 32 $\frac{1}{2}$	314 54 $\frac{1}{2}$		
12.	N. 85 E.	79	54 29 $\frac{1}{2}$	54 28 $\frac{1}{2}$	311 56 $\frac{1}{2}$			317 10 $\frac{1}{2}$		
13.	S. 52 E.	62	55 6 $\frac{1}{2}$	55 0 $\frac{1}{2}$	313 20 $\frac{1}{2}$			318 32 $\frac{1}{2}$		
14.	N. 52 E.	86	54 14	53 56 $\frac{1}{2}$	315 15 $\frac{1}{2}$	320 46 $\frac{1}{2}$	320 4 $\frac{1}{2}$	320 25 $\frac{1}{2}$	15	S. W.
Sounded several times, and had 175 and 120: bottom mud.										
15.	S. 39 E.	44	54 30 $\frac{1}{2}$	54 29 $\frac{1}{2}$	316 2 $\frac{1}{2}$			321 7 $\frac{1}{2}$		
Sounded: 110 fathoms, the bottom mud.										
16.	N. 82 E.	24	54 27	54 25 $\frac{1}{2}$	316 43	322 2 $\frac{1}{2}$	321 20	321 41 $\frac{1}{2}$		
Willis's Isles.				54 0				321 30 $\frac{1}{2}$		
Cape North.				54 4 $\frac{1}{2}$				321 45		
Cape Buller.				53 58 $\frac{1}{2}$				322 20		
17.	N. 63 E.	41	54 6 $\frac{1}{2}$	54 0 $\frac{1}{2}$	317 44	323 4 $\frac{1}{2}$	322 21 $\frac{1}{2}$	322 43 $\frac{1}{2}$		
Cape Saunders.				54 6 $\frac{1}{2}$				323 2 $\frac{1}{2}$		
Cape George.				54 17				323 27 $\frac{1}{2}$		
Cape Charlotte.				54 32				323 48 $\frac{1}{2}$		
18.	S. 59 E.	59	54 31 $\frac{1}{2}$	54 30 $\frac{1}{2}$	319 12	324 30 $\frac{1}{2}$	323 47 $\frac{1}{2}$	324 9 $\frac{1}{2}$		
Sounded: 80 fathoms; bottom mud.										
19.	S. 7 E.	17	54 47	54 42 $\frac{1}{2}$	319 15	324 32 $\frac{1}{2}$	323 49 $\frac{1}{2}$	324 11 $\frac{1}{2}$		
The Lurker, off Sandwich Bay.				54 42				324 1		
Cooper's Island.				54 57				323 55 $\frac{1}{2}$		
20.	S. 35 W.	23	55 2	55 3 $\frac{1}{2}$	318 53	324 9 $\frac{1}{2}$	323 26 $\frac{1}{2}$	323 48 $\frac{1}{2}$	39	
Sounded: no ground with 120 fathoms.										
Cape Disappointment.				54 58				323 45		
Green Isles.				54 59				323 45		
Pickertgill's Island.				54 42 $\frac{1}{2}$				323 2		
Clerke's Isles.				55 5 $\frac{1}{2}$				325 18		
21.	S. 75 E.	48	55 16 $\frac{1}{2}$	55 16 $\frac{1}{2}$	320 13	325 43 $\frac{1}{2}$	325 0 $\frac{1}{2}$	325 22 $\frac{1}{2}$		
22.	N. 32 E.	21	54 59	54 59 $\frac{1}{2}$	320 32			325 36 $\frac{1}{2}$		
23.	S. 63 W.	15	55 5 $\frac{1}{2}$	55 6 $\frac{1}{2}$	320 9			325 8 $\frac{1}{2}$		
Sounded: and had 60 and 75 fathoms; bottom shells.										
24.	N. 54 E.	10	54 59 $\frac{1}{2}$	55 1	320 24			325 18 $\frac{1}{2}$		

1775	Course	Distance	Latitude South		Longitude East				Ship rolls	Swell	
			By Account	By Observation	By Account	By Watch K	By Observation	Corrected			
		Miles									
Jan 25	S 44 E	81	55 57 $\frac{3}{4}$	56 0 $\frac{1}{2}$	322 2 $\frac{1}{2}$	327 12 $\frac{1}{2}$	326 29	326 51 $\frac{1}{2}$			
26	S 41 E	111	57 23 $\frac{3}{4}$	57 38 $\frac{1}{2}$	324 14 $\frac{1}{2}$	329 18 $\frac{1}{2}$	329 13	328 57 $\frac{1}{2}$			
27	South	123	59 41 $\frac{1}{2}$	59 44	324 14 $\frac{1}{2}$	329 21 $\frac{1}{2}$	329 16 $\frac{1}{2}$	329 0 $\frac{1}{2}$			
	Sounded	No ground with 140 fathoms									
28	S 59 E	33	59 58 $\frac{1}{2}$	60 5 $\frac{1}{2}$	324 56 $\frac{1}{2}$	330 55 $\frac{1}{2}$	330 50 $\frac{1}{2}$	330 84 $\frac{1}{2}$			
29	N 58 W	13	59 57	60 1 $\frac{1}{2}$	324 31 $\frac{1}{2}$			330 13 $\frac{1}{2}$			
30	N 30 E	31	59 34 $\frac{1}{2}$	59 34	325 2 $\frac{1}{2}$			330 49 $\frac{1}{2}$			
	Friezland's Peak		59 2					333 4			
	Cape Bristol		59 2 $\frac{1}{2}$					333 9			
	South Thule		59 34					332 15			
31	N 69 E	59	59 13 $\frac{1}{2}$	59 12 $\frac{1}{2}$	326 48 $\frac{1}{2}$	333 1 $\frac{1}{2}$	332 56	332 40 $\frac{1}{2}$			
Feb 1	N 3 E	46	58 26 $\frac{1}{2}$	58 25	326 63 $\frac{1}{2}$	333 6 $\frac{1}{2}$	333 1	332 45 $\frac{1}{2}$			
	Sounded	No ground with 160 fathoms									
	Cape Montagu		58 33					333 14			
2	N 3 E	37	57 47	57 46	326 58	333 29	333 23 $\frac{1}{2}$	333 8			
	Sounded	No ground with 220 fathoms									
	Saunders's Isle		58 0					333 2			
3	N 8 E	31	57 16 $\frac{1}{2}$	57 15	327 6			333 8			
	Candlemas Isles		57 10					332 47			
4	N 52 E	39	56 47 $\frac{1}{2}$	56 44	328 7	334 34 $\frac{1}{2}$	334 29	334 13 $\frac{1}{2}$	N W		
5	S 72 E	68	57 5	57 9	330 4 $\frac{1}{2}$	336 31	336 26 $\frac{1}{2}$	336 10 $\frac{1}{2}$			
6	S 39 E	88	58 18	58 19	331 48 $\frac{1}{2}$			337 56 $\frac{1}{2}$			
7	S 88 E	116	58 22 $\frac{1}{2}$	58 24 $\frac{1}{2}$	335 33 $\frac{1}{2}$	342 5 $\frac{1}{2}$	342 0 $\frac{1}{2}$	341 44			
8	S 81 E	106	58 40	58 29 $\frac{1}{2}$	338 53 $\frac{1}{2}$	345 27	345 21 $\frac{1}{2}$	345 6			
9	N 85 E	47	58 26	58 26 $\frac{1}{2}$	340 23 $\frac{1}{2}$	347 5 $\frac{1}{2}$	347 0 $\frac{1}{2}$	346 41 $\frac{1}{2}$			
10	N 81 $\frac{1}{2}$ E	76	58 15	58 15	342 57 $\frac{1}{2}$	349 32 $\frac{1}{2}$	349 27	349 11 $\frac{1}{2}$			
11	S 89 E	80	58 16	58 6 $\frac{1}{2}$	345 27 $\frac{1}{2}$	352 11 $\frac{1}{2}$	352 6	351 50 $\frac{1}{2}$			
12	S 81 E	27	58 11	58 20 $\frac{1}{2}$	346 20	353 32 $\frac{1}{2}$	353 26 $\frac{1}{2}$	353 11 $\frac{1}{2}$	S I West land		
13	N 66 E	59	57 56 $\frac{1}{2}$	57 56 $\frac{1}{2}$	348 1	355 34	355 28 $\frac{1}{2}$	355 13			
14	N 75 E	120	57 23 $\frac{1}{2}$	57 23 $\frac{1}{2}$	351 47	359 35 $\frac{1}{2}$	359 30 $\frac{1}{2}$	359 14 $\frac{1}{2}$			
14	N 75 $\frac{1}{2}$ E	157	56 43 $\frac{1}{2}$	56 37	356 35	4 20 $\frac{1}{2}$	4 15 $\frac{1}{2}$	3 59 $\frac{1}{2}$			
	Dropped	360° and repeated a day									
15	N 40 E	82	55 34 $\frac{1}{2}$	55 26 $\frac{1}{2}$	358 15 $\frac{1}{2}$	6 2	5 56 $\frac{1}{2}$	5 41			
16	N 17 E	58	54 31 $\frac{1}{2}$	54 31 $\frac{1}{2}$	358 45	6 22 $\frac{1}{2}$	6 16 $\frac{1}{2}$	6 1 $\frac{1}{2}$			
17	N 85 $\frac{1}{2}$ E	98	54 23 $\frac{1}{2}$	54 23 $\frac{1}{2}$	1 35	8 58 $\frac{1}{2}$	8 37 $\frac{1}{2}$	8 37 $\frac{1}{2}$	North		
18	East.	111 3	54 24	54 23 $\frac{1}{2}$	4 47			11 56 $\frac{1}{2}$			
19	N 74 E	35	54 13 $\frac{1}{2}$	54 11	5 45			13 1 $\frac{1}{2}$			
20	S 85 $\frac{1}{2}$ E	105	54 21 $\frac{1}{2}$	54 15 $\frac{1}{2}$	8 45	16 29 $\frac{1}{2}$	16 18 $\frac{1}{2}$	16 8 $\frac{1}{2}$			
21	S 85 $\frac{1}{2}$ E	82	54 22	54 24 $\frac{1}{2}$	11 6	18 55 $\frac{1}{2}$	18 33 $\frac{1}{2}$	18 34 $\frac{1}{2}$	N E		
22	S 69 E	118	53 7	55 10 $\frac{1}{2}$	14 21	22 10 $\frac{1}{2}$	22 2	21 50			
23	N 61 E	101	54 21 $\frac{1}{2}$	54 26	16 54			24 39			
24	N 31 E	106	52 56 $\frac{1}{2}$	52 51 $\frac{1}{2}$	18 30 $\frac{1}{2}$	26 52 $\frac{1}{2}$	26 6	26 31 $\frac{1}{2}$			
25	N 29 E	148	50 42 $\frac{1}{2}$	50 33 $\frac{1}{2}$	20 33 $\frac{1}{2}$	29 0 $\frac{1}{2}$	28 19 $\frac{1}{2}$	28 40	S by W		
26	N 31 E	88	49 18	49 20 $\frac{1}{2}$	21 43 $\frac{1}{2}$	30 17 $\frac{1}{2}$	29 45 $\frac{1}{2}$	29 57 $\frac{1}{2}$			
27	N 47 E	97	48 15	47 58 $\frac{1}{2}$	23 57 $\frac{1}{2}$			31 53 $\frac{1}{2}$			
27	N 7 E	82	47 13 $\frac{1}{2}$	46 58 $\frac{1}{2}$	26 12 $\frac{1}{2}$	34 10 $\frac{1}{2}$	33 38 $\frac{1}{2}$	33 50 $\frac{1}{2}$		SE by E	

ON BOARD THE RESOLUTION.

331

1775.		Course.	Dis- tance.	Latitude South		Latitude East				Ship rolls.	Swell fets.				
				By Ac- count.	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.						
												Miles.	°	°	°
March	1.	N. 71 W.	92	46 28½	46 28	24 10½			31 45½	39	E. S. E. E. S. E. E. S. E. East. N. E.				
	2.	N. 30 W.	63	45 33½	45 32½	23 25	31 15½	30 43½	30 56						
	3.	N. 25 W.	100	44 2½	43 53½	22 20	30 7½	29 35½	29 47½						
	4.	N. 85 W.	52	43 49	43 46½	21 8	29 9½	28 37½	28 49½						
	5.	N. 59½ W.	73	43 46½	43 49½	19 27	27 33	27 1	27 13½						
	6.	N. 9 W.	79	42 31½	42 23½	19 7	27 33½	26 59½	27 14½						
	7.	N. 52 W.	41	41 59	41 48½	18 24	26 44½	26 10½	26 25						
	8.	S. 62 W.	31	42 3	41 47½	17 47	26 13½	25 40½	25 54½						
	9.	S. 71 W.	46	42 2½	42 6	16 49	25 18½	24 45½	25 0						
	10.	N. 31 W.	78	40 59½	40 56½	15 55	24 23½	23 51½	24 4½						
	11.	N. 58 W.	47	40 3½	40 3	15 2	23 59	23 26½	23 40½						
	12.	N. 11 W.	42	39 22	38 50½	14 50	24 34½	24 2½	24 16½						
	13.	N. 45½ W.	121	37 25½	37 18½	13 10	22 50½	22 18½	22 32½						
	14.	N. 15 E.	76	36 5	36 27½	13 35	22 33	22 0½	22 15½						
Sounded: 80 fathoms, stony ground.															
	15.	N. 17 E.	62	35 28	35 16	14 2	22 34½	22 2½	22 17½	East.					
Sounded, and had 56 fathoms.															
	16.	N. 47 W.	27	34 57½	34 49	13 38	22 14½	22 20½	21 57½						
Saw land. Sounded, and had 40 fathoms.															
	17.	S. 72 W.	50	35 4½	35 2	12 43	21 10½	20 39	20 53½			East.			
Sounded, and had 50 fathoms.															
	18.	N. 83 W.	9	35 0½	34 59½	12 33	20 53½	20 22	20 36						
	19.	N. 83 W.	23	34 57	34 51½	12 5	20 20½	19 48½	20 4						
	20.	N. 61 W.	93	34 6½	34 13	10 25½	18 12½	17 40½	17 56½						
Cape Town.															
	April 28.	N. 58 W.	101	33 2½	32 50	16 41	16 19½		16 19½						
	29.	N. 57 W.	140	31 33½	31 31	14 23	13 47		13 47						
	30.	N. 58 W.	127	30 24½	30 17½	12 17	11 31½		11 31½						
May	1.	N. 51 W.	98	29 16	29 12	10 49	9 55½		9 55½	North. N. E.					
	2.	N. 51 W.	95	28 12	28 11½	9 25	8 23		8 23						
	3.	N. 50 W.	101	27 5½	27 1	7 49½	6 58	7 7½	6 58						
	4.	N. 38 W.	35	26 32½	26 34	7 25	6 36½	6 29½	6 36½						
	5.	N. 36 W.	39	26 3½	26 2	6 59									
	6.	N. 45½ W.	86	25 1½	25 0½	5 51	4 56	4 49	4 56						
	7.	N. 44 W.	122	23 33	23 27½	4 12	3 19½	3 29½	3 19½						
	8.	N. 44 W.	110	22 8	22 5	2 46	1 49	2 4½	1 49						
	9.	N. 48 W.	109	20 51½	20 46½	1 13	0 14½	0 23	0 14½						
West. West.															
	10.	N. 48 W.	91	19 44½	19 39	0 5	0 58½	0 49½	0 58½	North. N. E.					
	11.	N. 47 W.	78	18 46½	18 52½	1 05	2 9½	2 2½	2 9½						
	12.	N. 48 W.	37	18 28½	18 27½	1 35	2 41	2 15½	2 41						
	13.	N. 42 W.	60	17 43	17 43½	2 19	3 19	2 53½	3 19						
	14.	N. 42 W.	75	16 47	16 46½	3 12	4 19½	4 9½	4 19½						
	15.	N. 52 W.	72	16 3	16 1½	4 13	5 16½		5 16½						
St. Helena.															
	22.	N. 55 W.	47	15 28	15 24	6 29½	6 28½	7 22½	6 29½						

1775.		Course.	Dis- tance.	Latitude North		Longitude West				Ship roll.	Swell sets.
				By Ac- count	By Obser- vation.	By Ac- count.	By Watch K.	By Obser- vation.	Corrected.		
			Miles.								
7.	July	N. 3 E.	25		33 32 $\frac{1}{2}$	36 59	40 8 $\frac{1}{2}$	39 20	39 44 $\frac{1}{2}$		
8.		N. 11 E.	35	34 8 $\frac{1}{2}$	34 12	36 51	40 7 $\frac{1}{2}$	39 26 $\frac{1}{2}$	39 43 $\frac{1}{2}$		East.
9.		N. 19 E.	45	34 50 $\frac{1}{2}$	35 3	36 32 $\frac{1}{2}$	40 10 $\frac{1}{2}$	39 29 $\frac{1}{2}$	39 46 $\frac{1}{2}$		
10.		N. 46 E.	68 $\frac{1}{2}$	35 50 $\frac{1}{2}$	35 45 $\frac{1}{2}$	35 33	39 14 $\frac{1}{2}$	38 33 $\frac{1}{2}$	38 50 $\frac{1}{2}$		
11.		N. 63 E.	154		36 55 $\frac{1}{2}$	32 43	36 21 $\frac{1}{2}$	35 40 $\frac{1}{2}$	35 57 $\frac{1}{2}$		
12.		N. 62 E.	165	38 12 $\frac{1}{2}$	38 12 $\frac{1}{2}$	29 40	33 6 $\frac{1}{2}$	32 26	32 42 $\frac{1}{2}$		
13.		N. 83 E.	133	38 27	38 29 $\frac{1}{2}$	26 53	30 9 $\frac{1}{2}$	29 28 $\frac{1}{2}$	29 45 $\frac{1}{2}$		
		Villa de Horta, Fayal.		38 32 $\frac{1}{2}$					28 32 $\frac{1}{2}$		
19.		N. 59 E.	43	38 54	38 52	24 58 $\frac{1}{2}$	28 3 $\frac{1}{2}$		27 40		
20.		N. 76 E.	100	39 18 $\frac{1}{2}$	39 13 $\frac{1}{2}$	22 53 $\frac{1}{2}$	25 56 $\frac{1}{2}$	25 57 $\frac{1}{2}$	25 33 $\frac{1}{2}$		
21.		N. 79 $\frac{1}{2}$ E.	79	39 26 $\frac{1}{2}$	39 26 $\frac{1}{2}$	21 13 $\frac{1}{2}$	24 15	24 35 $\frac{1}{2}$	23 52 $\frac{1}{2}$		South.
22.		N. 81 E.	57	39 35 $\frac{1}{2}$	39 37 $\frac{1}{2}$	19 58 $\frac{1}{2}$	22 59 $\frac{1}{2}$	22 39 $\frac{1}{2}$	22 38		
23.		N. 51 E.	128	40 58	40 48 $\frac{1}{2}$	17 47 $\frac{1}{2}$	20 36 $\frac{1}{2}$	20 11	20 14 $\frac{1}{2}$		East.
24.		N. 49 E.	129	42 13 $\frac{1}{2}$	42 6 $\frac{1}{2}$	15 38 $\frac{1}{2}$	18 31	18 5 $\frac{1}{2}$	18 8 $\frac{1}{2}$		S. E.
25.		N. 39 E.	124	43 43	43 40 $\frac{1}{2}$	13 51	16 44 $\frac{1}{2}$	16 19 $\frac{1}{2}$	16 23 $\frac{1}{2}$		
26.		N. 36 E.	143		45 36	11 52	14 22 $\frac{1}{2}$	13 57 $\frac{1}{2}$	14 2 $\frac{1}{2}$		
27.		N. 46 E.	158 $\frac{1}{2}$	47 16	47 16 $\frac{1}{2}$	9 5	11 27 $\frac{1}{2}$	11 1 $\frac{1}{2}$	11 7 $\frac{1}{2}$		
28.		N. 59 E.	114 $\frac{1}{2}$	48 15 $\frac{1}{2}$	48 9 $\frac{1}{2}$	6 40	8 58	8 32 $\frac{1}{2}$	8 38 $\frac{1}{2}$		
29.		N. 57 $\frac{1}{2}$ E.	176	49 43	49 37 $\frac{1}{2}$	2 55	5 9 $\frac{1}{2}$	4 43 $\frac{1}{2}$	4 50 $\frac{1}{2}$		

* * In the preceding Journal, the course and distance put down in the second and third columns are those made good for the whole day; the variation of the compass, and common quantity of lee-way, under the circumstances the ship then was, being only allowed for, currents, and heave of the sea, as it is usually called, being not taken into the account, except for a few weeks after we left England. These things, I conceived, would be determined with greater certainty, both as to quantity and quality, by comparing the reckoning, kept entirely without them, with those deduced from Observations, and the Watch, or Time-keeper made by Mr. Kendall: Indeed, I did not see how otherwise to make my dead reckoning account of any real use, as my judgment, in making allowance for these things, could not have the least weight even to confirm that of such skilful and experienced navigators as Captain Cook, Mr. Gilbert, and other Officers of the Resolution. It therefore became my business to endeavour at making my labours useful, though in a less degree, by adopting a different plan; and am willing to hope I have done it with some success, especially as I was very careful in observing, as often as possible, both the variation of the compass, and the lee-way which the ship made, from time to time. I have also endeavoured to distinguish between what was effected by a current, and what was the effect of a swell, by mentioning the latter, as often as one was observed, and the point of the compass towards which it set, in a small column on the right hand side of the page.

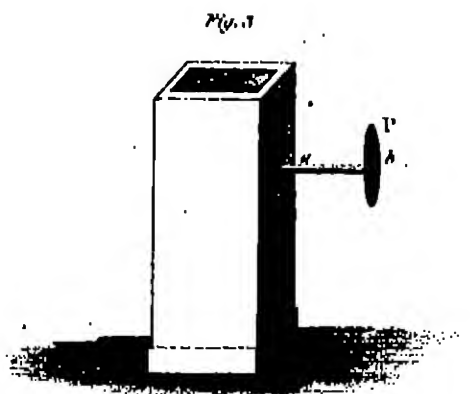
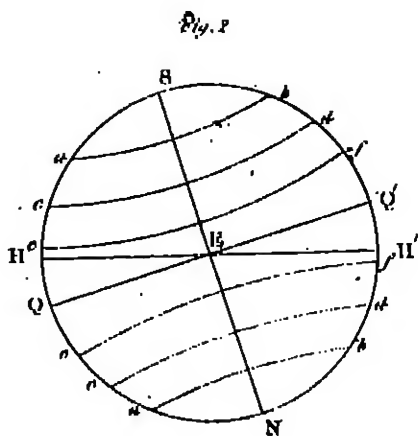
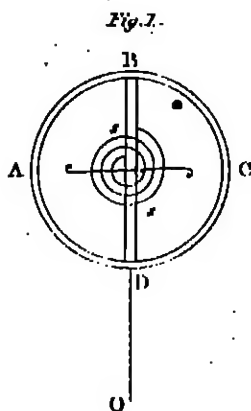
The fourth and sixth columns contain the latitude and longitude of the ship, deduced from the above-mentioned course and distance, on the noon of the civil day; or that where the nautical day ends, and the astronomical day begins: The latitude, so computed, is only carried on from observation to observation; that is, in general, only from noon to noon, as I always took the

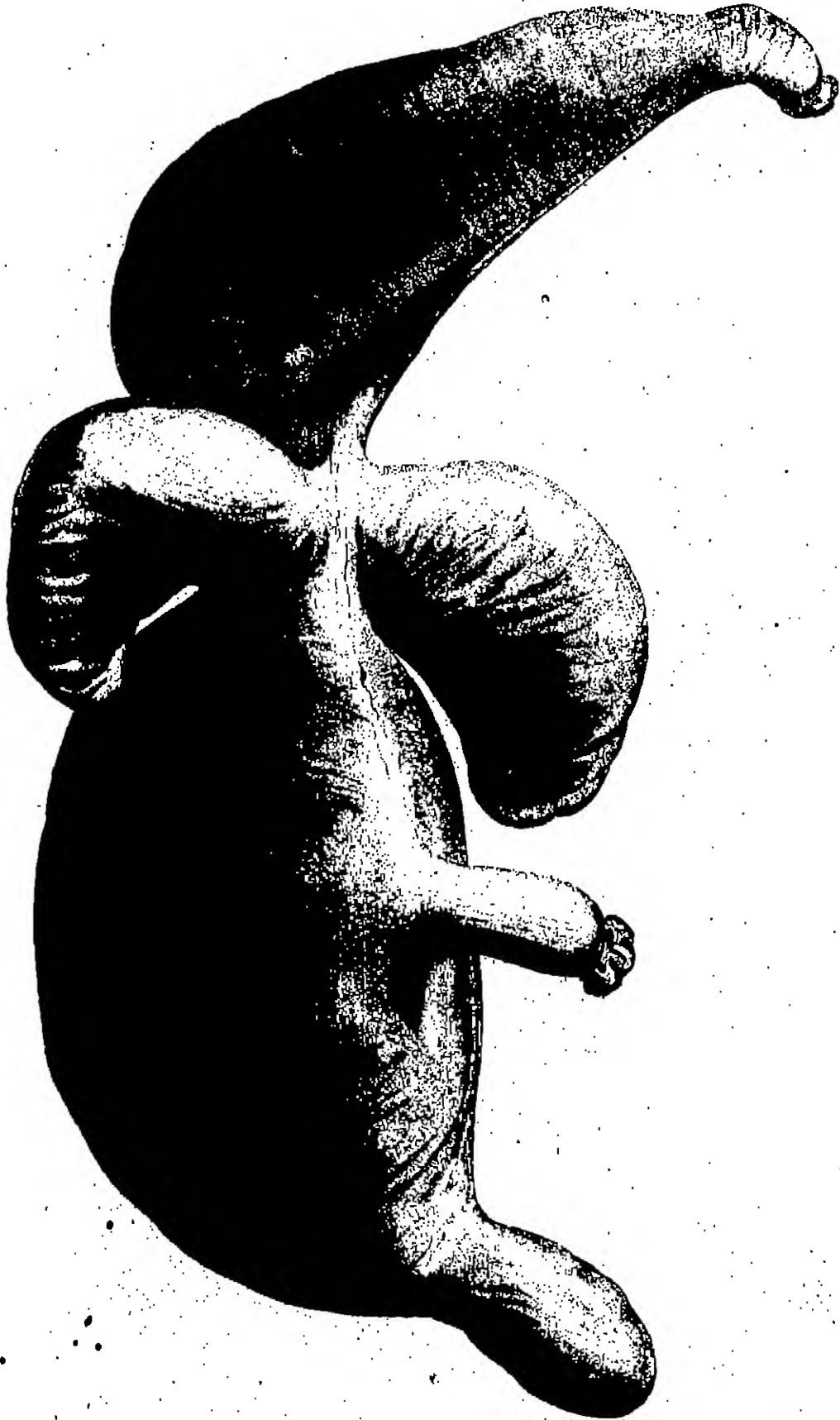
latitude observed the day before, when I had one, for the latitude departed from; but the longitude is kept on, without any correction whatsoever, from one place to the next where we anchored, and stopped long enough for me to determine the longitude properly, or where it had been well settled before by other persons. The fifth column contains the observed latitude when there was an observation; and when there was not, the latitude determined, in the best manner I could, by the log and subsequent observations. Those latitudes which were actually observed, may be readily known by turning to the Observations, page 223 to page 280.

Columns seven and eight contain the longitudes of the ship, as shewn by Mr. Kendall's Watch, and Mr. Arnold's (N^o. 3.), until Mr. Arnold's Watch stopped, after which that column is discontinued. The last column but two exhibits the longitude resulting from the last lunar observation, carried on to the time by Mr. Kendall's Watch, except from our leaving England to the 13th of September, 1772, when it was carried on by the log, the disadvantage of which was soon discovered; and the last but one contains, what is esteemed to have been, the true longitude of the ship each day at noon, and also the longitudes of all the lands we saw in the voyage, as well as of the more remarkable Capes, Headlands, and Bays in them; the general method of deducing which was as follows:

I reduced all the longitudes resulting from the observations of the Moon's distance from the Sun and fixed Stars made between the times of new and full Moon, to the time of the full Moon, by means of Mr. Kendall's Watch, and took the mean: I reduced, in like manner, all the observed longitudes taken between the full and change, to the same time, and took the mean of these also: the mean of these two means were taken for the true longitude of the ship at that time. In the same manner were all the longitudes observed between the full and change, and also between the change and next full moon, reduced to the time of the change, and their mean taken for the true longitude of the ship at that time: and in this manner was the longitude of the ship ascertained, once a fortnight, generally by a mean of 30 or 40, and sometimes even 50 and 60 observations. The longitudes in the intermediate times were deduced from these by means of the Watch. In some instances, indeed, where I have had sufficient reasons, the longitudes are taken from the Watch itself, as in our run from the Cape of Good Hope to the Island of St. Helena, although the observations would at all times have given the same longitude within a very few miles, as will readily be seen; and I have also paid proper regard to the situations of places settled by those who have gone before me, where the authorities were such as could be depended on.

Lastly, I have to observe that the length of the log-line was carefully kept, by frequent comparisons, to such proportion with the half-minute glass, as 49½ feet have to 30 seconds.





Scalpel held in hand to cut Throat

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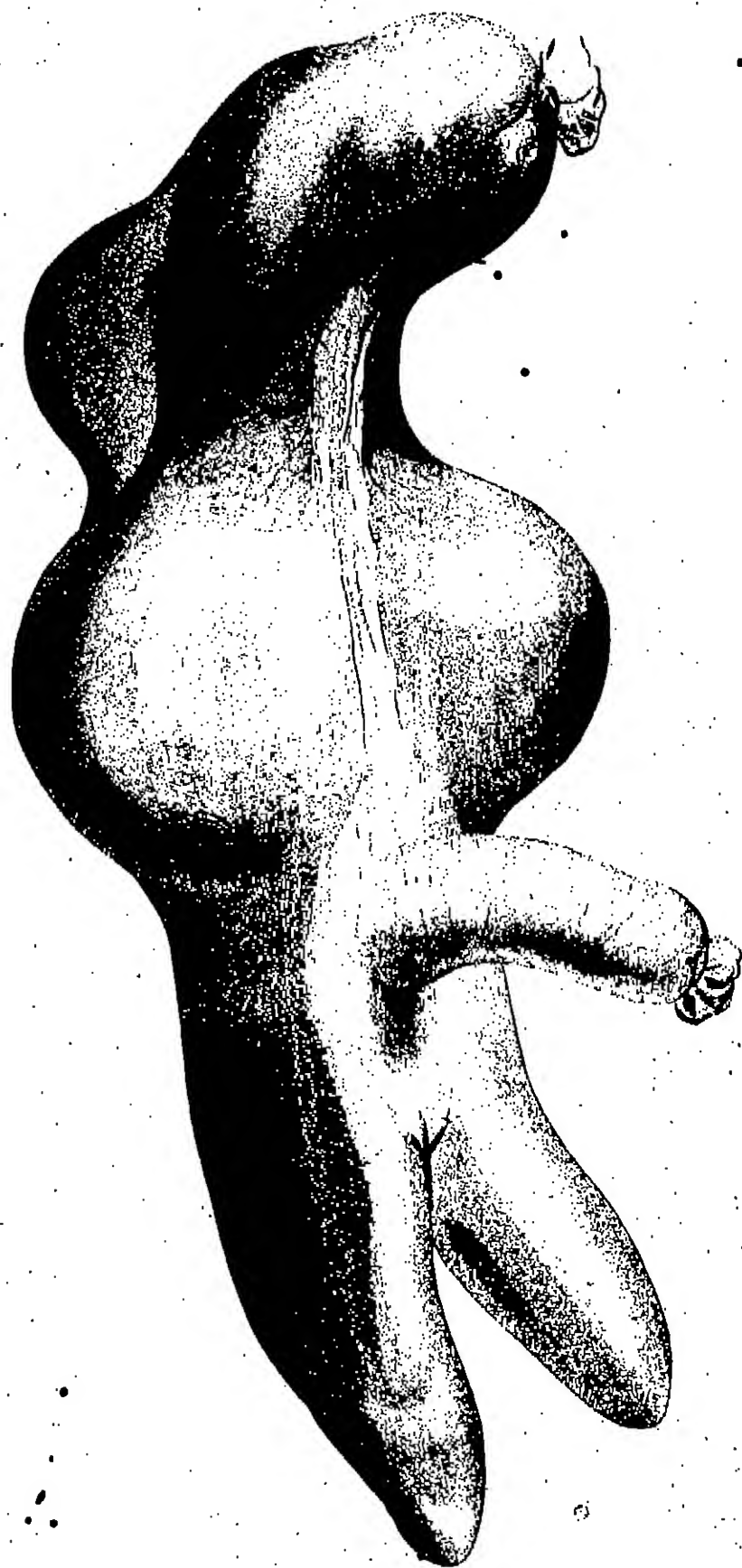
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Reared Size

METEOROLOGICAL OBSERVATIONS,

M A D E

On Board His MAJESTY'S Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Time		
⊙	June 21.					S. W.	Moderate wind, clear, and hot weather.
☾	22.					Almost calm, and very hot.	
☿	23.					Easterly.	Light breezes, flying clouds, and very hot.
♄	24.					Southerly.	Brisk wind, and flying clouds.
♃	25.					Variable.	Little winds, and ditto.
♅	26.					Ditto.	Light breezes, and ditto.
♄	27.					Westerly.	Ditto.
⊙	28.					Variable.	Little wind, and cloudy weather.
☾	29.					Ditto.	Ditto, and thin clouds.
☿	30.					Northerly.	Light breezes, and hazy weather.
♄	July 1.					Ditto.	Ditto.
♃	2.	56½				Ditto.	Ditto, and fine weather.
♅	3.						Cloudy, with showers.
♄	13.	61	30,31	61½		Westerly.	Moderate wind, and cloudy, with rain at times.
♃	14.	60½	3,29	62	63	Ditto.	Little wind, and foggy weather.
♅	15.	59		64		N. N. E.	Moderate wind, and cloudy weather.
♄	16.	61½	30,18	61½	63	N. W.	Ditto, and fine weather.
☾	17.	63½		70	70	S. W.	Brisk wind, and hazy.
♃	18.	64		65		N. W.	Squally, with clouds, and rain at times.
⊙	19.	63	30,05	64½		N. W.	Brisk wind, and cloudy.
☾	20.	63	29,97	66		Variable.	Ditto, and foggy, with rain.
☿	21.	60	30,08	66		S. W.	Little wind, and hazy weather.
♄	22.			65½	69	North.	Ditto.
♃	23.			64½		N. E.	Brisk wind, and flying clouds.
♅	24.	65½		66½		Ditto.	Ditto.
♄	25.	67½	30,3	70	73	Ditto.	Ditto, and cloudy.
Tried Dr. Lind's wind-gage, (See Philosoph. Transact. vol. lxx. p. 343.) but could not find that the wind had any sensible effect on it. At the time we had as much wind as we could well carry top-gallant sails to.							
⊙	26.	68½	30,2	72½	74	N. E.	Moderate wind, and cloudy.
☾	27.	69½		72	71	Variable.	Ditto, and fine weather.
☿	28.	72½	30,1	72½	74	Ditto.	Very little wind, and fine weather.
♄	29.	72	30,18	77½		Ditto.	Little wind, showers, and fine weather.
♃	30.			76		Ditto.	Moderate wind, and hot weather.
♅	31.			72½		Ditto.	Ditto, and showers, with flying clouds.
♄	Aug. 1.			72½		Ditto.	Brisk wind, and flying clouds.
⊙	2.			75½		N. E.	Ditto, and cloudy, with showers.
☾	3.	73	30,13	77		Ditto.	Ditto, and cloudy.
☿	4.	72	30,08	75	76½	Variable.	Moderate wind, and very hazy.
♄	5.	75½	30,1	76	77½	East.	Ditto, and foggy.
♃	6.	74	30,1	78	78½	N. E.	Ditto, and cloudy.
♅	7.	74½	30,15	79	79½	East.	Ditto.
♄	8.	73	30,1	79		N. E.	Moderate wind, and hazy.
⊙	9.	76	30,08	78		Ditto.	Brisk wind, and cloudy.
☾	10.	75½	30,05	79		Ditto.	Ditto, and hazy weather.
☿	11.	78	30,0	82		N. E. by N.	Moderate wind, and hazy.
♄	12.	80	30,02	80		Ditto.	Ditto, and showers.
♃	13.		30,08	82		N. E.	Ditto, and fine weather.
♅	14.				31		

1772	Morn Therm	Noon		Even Therm	Winds	Weather &c.
		B. rom	Therm			
♀ Aug 14	79	30,12	81		N E	Moderate wind, and fine weather
♂ — 15	78½	29,92	80½		N E by N	Brisk wind with rain
To day we lost the N E. trade wind, which veered round by the E to the S E without flattening to a calm as I believe is generally the case						
○ — 16	80	29,92	81		South	Moderate wind, and hazy weather
♂ — 17	79	29,92	80		S W	Ditto, and cloudy
♂ — 18	78	30,0	82		Ditto	Little wind, and very hazy
♂ — 19	80	30,07	81	81	N W	Moderate wind, and cloudy, with showers
♂ — 20	79	29,97	79½		S W	Little wind, and exceeding heavy rain
♀ — 21	76½	29,9	79	79½	Ditto	Squally, with rain
♂ — 22	78	30,02	80		Ditto	Brisk wind, and cloudy
○ — 23	80	30,0	80	80½	Ditto	Moderate wind, and cloudy
♂ — 24	78	29,95	79		Ditto	Ditto
♂ — 25	79½	30,05	80½	80½	Ditto	Moderate wind, and hazy
♂ — 26	78	29,92	76½		Ditto	Ditto, and cloudy, with showers
♂ — 27	78	29,97	80½		Ditto	Ditto, and hazy
♀ — 28	77½	30,10	77		Ditto	Ditto, and fine weather
♂ — 29	77	30,2	78	79½	Ditto	Ditto
○ — 30	76	30,02	77		South	Ditto
♂ — 31	76½	30,07	78½		Ditto	Ditto
♂ Sept 1	77	30,0	79		Ditto.	Ditto
♂ — 2	76	29,92	78		Ditto	Ditto, and cloudy
♂ — 3	75½	30,05	76		Ditto	Ditto
♀ — 4	74	30,05	75		Variable	Ditto, and fine weather
♂ — 5	73½	30,04	76		S W	Ditto
This morning I let down a Thermometer, suspended in the middle of a strong wooden case, of such a construction as to let the water pass freely through it in its descent, but which shut close the instant it began to be drawn up By this means the Thermometer was brought up in a body of water of the same heat with that it had been let down to The Thermometer stood at 75½ in the open air, at 74 in the water at the surface, and at 66 when drawn up from the depth of 85 fathoms, where it had lain 20 minutes, and we were seven and a half drawing it up						
○ — 6	74½	30,0	75		South	Moderate wind, and fine weather
♂ — 7	75	30,07	77		Ditto	Ditto
♂ — 8	75½	30,1	76		Ditto	Ditto
♂ — 9	74½	30,1	75		S E	Ditto
♂ — 10	74½	30,05	75		Ditto	Ditto
♀ — 11	74	30,12	76		Ditto	Ditto
♂ — 12	75½	30,1	76½		Ditto	Ditto
○ — 13	74	30,1	76		Ditto	Moderate wind, and cloudy
♂ — 14	75	30,15	76½	77	Ditto	Ditto, and fine weather
♂ — 15	73	30,02	77		Ditto	Ditto, and cloudy
♂ — 16	73	30,17	73		Ditto	Ditto
♂ — 17	72½	30,17	73½		Ditto	Ditto
♀ — 18	73	30,15	73½		Ditto	Squally, with rain sometimes
♂ — 19	70½	30,17	72½		Ditto	Brisk wind, and cloudy, with showers
○ — 20	72	30,22	72½		Ditto	Moderate wind, and fine weather

1772.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.			
Sept.	21.	71	30,12	71		S. E.	Moderate wind, and fine weather.
	22.			75		Ditto.	Ditto.
	23.	70	30,27	73		Ditto.	Squally, with clouds, and rain at times.
	24.	70 $\frac{1}{2}$	30,3	72		Ditto.	Moderate wind, and cloudy.
	25.		30,3	70 $\frac{1}{2}$		East.	Brisk wind, and cloudy, with showers.
	26.	69	30,35	73	73 $\frac{1}{2}$	Ditto.	Little wind, and fine weather.
The Thermometer stood at 72 $\frac{1}{2}$ in the open air, at 70 in the water at the surface, and at 68 when drawn up from a depth of 80 fathoms, where it had lain 15', and we had been seven minutes drawing it up.							
Oct.	27.	69 $\frac{1}{2}$	30,32	74		East.	Little wind, and fine weather.
	28.	69	30,25	72		N. E.	Ditto.
	29.	67	30,22	71		North.	Moderate wind, and fine weather.
	30.	69 $\frac{1}{2}$	30,12	71 $\frac{1}{2}$	67 $\frac{1}{2}$	Variable.	Brisk wind, and cloudy.
	1.			71		South.	Moderate wind, and flying clouds.
	2.	65 $\frac{1}{2}$		65 $\frac{1}{2}$		S. W.	Ditto.
	3.	63 $\frac{1}{2}$	30,3	67 $\frac{1}{2}$		Ditto.	Brisk wind, and cloudy.
	4.	62 $\frac{1}{2}$	30,15	62		Variable.	Moderate wind, and cloudy.
	5.	59	30,41	61		S. E.	Ditto, with drizzling rain.
	6.		30,4	61 $\frac{1}{2}$		East.	Ditto, and cloudy.
	7.	58 $\frac{1}{2}$	30,42	60 $\frac{1}{2}$		Ditto.	Squally, unsettled weather.
	8.	59	30,4	62		Ditto.	Brisk wind, and cloudy, with rain.
	9.	59	30,4	61		N. E.	Brisk wind in squalls, and very hazy.
	10.	59	30,37	62		Ditto.	Moderate wind, and hazy: showers.
	11.	59 $\frac{1}{2}$	30,25	63 $\frac{1}{2}$		Ditto.	Moderate wind, and fine weather.
The Thermometer stood at 60 $\frac{1}{2}$ in the open air, at 59 in the water at the surface, and at 57 when drawn up from the depth of 100 fathoms, where it had lain 20', and we had been six drawing it up.							
	12.		30,35	63		N. E.	Little wind, and fine clear weather.
	13.	60	30,27	65 $\frac{1}{2}$		Ditto.	Moderate wind, and cloudy.
	14.	61	30,1	61		North.	Ditto.
	15.	58	30,02	62		Ditto.	Moderate wind, and fine weather.
	16.	59	30,05	61		West.	Brisk wind, and foggy weather.
	17.	57	30,05	59		S. W.	Ditto, and flying clouds.
	18.		30,1	60 $\frac{1}{2}$		Variable.	Moderate wind, and cloudy.
	19.	54 $\frac{1}{2}$	30,17	57	58	East.	Little wind, and cloudy.
	20.		30,35	62 $\frac{1}{2}$		Ditto.	Ditto, and clear weather.
	21.	60 $\frac{1}{2}$	30,37	63		Ditto.	Ditto.
	22.	58	30,2	60	61	N. E.	Little wind, and cloudy, with rain at times.
	23.	58	29,95	63		West.	Little wind, and cloudy.
	24.	56	30,07	59		South.	Brisk wind, and fine weather.
	25.	54	30,17	58		S. E.	Moderate wind, and cloudy.
	26.	58	30,07	60		Ditto.	Ditto.
	27.	59	29,9	60 $\frac{1}{2}$		Variable.	Moderate wind, and hazy weather.
	28.	64	29,9	67		N. W.	Little wind, and cloudy.
	29.		29,81	61 $\frac{1}{2}$		North.	Moderate wind, with drizzling rain.
	30.	61	29,83	60 $\frac{1}{2}$		N. W.	Cloudy, with rain at times.
	31.					Ditto.	Brisk wind, and cloudy weather.

1772		Morn	Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm		
O	Nov 1			63		N W	Brisk wind, and cloudy, with showers
3	2			61½		N W	Ditto, and mostly cloudy
8	3			60½		N W	Moderate wind, and fair weather
8	4		30,34	61½		Variable	Ditto, and variable weather
24	5		30,24	65		Southerly	Ditto
2	6		30,19	66		Ditto	Moderate wind, and fine weather
5	7	66½	30,17	71	66	Ditto	Brisk wind, and squally weather
O	8	62	30,14	68	63½	N W	Little wind, and flying clouds
3	9	62½	30,15	64	63½	N W	Moderate wind, and flying clouds
8	10	59½	30,3	62½	60	Variable	Little wind, and fine weather
8	11	59	30,22	64½		N W	Moderate wind and cloudy weather
24	12	62½	30,24	65	61	N W	Ditto, and fine weather
2	13	63	30,26	64½	65	N W	Ditto
5	14	60½	30,33	65½	63½	Variable	Ditto
O	15	58½	30,19	66		Ditto	Ditto
3	16					Ditto	Ditto
8	17			68		N N E	Ditto
8	18		30,02	71		Variable	Moderate wind, and cloudy
24	19		29,95	69½		S S E	Brisk wind, and cloudy
2	20		29,9	71½		N W	Ditto
5	21		29,97	72		N W	Little wind, and fine weather
O	22			72	72	N W	Moderate wind, and cloudy
3	23	62	29,8	65		Variable	Brisk wind, and cloudy, with showers
8	24	62	30,1	63½		S E	Moderate wind, and clear weather
8	25	62	30,0	64		S E	Brisk wind, and cloudy
24	26	66½	29,8	69½		West	Moderate wind, and cloudy
2	27	53	30,02	52½		Variable	Ditto, and flying clouds
5	28	54½	29,85	59½		N W	Strong wind in squalls, with rain
In the midst of this heavy gale I tried Dr Lind's Wind gage, and the water in it was depressed by the force of the wind $\frac{1}{4}$ of an inch							
O	29	52½	29,6	51		N W b W	Strong wind, and squally, with hail and rain
3	30	52	29,02	55		N W b W	Strong wind in squalls and rain
The water in Dr Lind's Wind gage depressed $\frac{1}{4}$ of an inch in the squalls							
8	Dec 1	62	29,23	51	47	Westerly	Strong wind, and cloudy, with rain
Dr Lind's Wind gage sunk $\frac{1}{4}$ of an inch in the squalls							
8	2	46	29,3	49½	48	N W	Strong wind, and foggy weather
24	3	47½	29,22	49		N W	Brisk wind, and flying clouds
8	4	43½	29,55	44½		N W	Moderate wind, and hazy
5	5	50½	29,7	48		Variable	Brisk wind, and hazy
O	6	38½	29,52	38		Variable	Strong wind, and cloudy
3	7	38½	28,6	42½		N W	Exceeding strong wind, with rain
8	8	37½	28,92	40	37½	West	Ditto and cloudy, with snow and sleet
8	9	35	29,32	36	32	West	Strong wind, and cloudy At 1 past 10
in the evening, some water which had been spilled on the deck was frozen, and in the morning we passed the first island of ice. It was not very high, was smooth on the top and sides, and not rugged like those I have seen in the North seas							
24	10	34	29,32	36½		Variable,	Brisk wind, with snow and sleet
2	11	32½	29,27	34		N W	Ditto Passed another ice isle.

1772.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
h Dec. 12.	34	28.55	34 $\frac{1}{2}$		N. W.	Brisk wind, with snow and fleet. Many ice islands.
o — 13.	30 $\frac{1}{2}$	28.7	32		S. W.	Ditto. Penguins and ice.
d — 14.	31	29.17	33		Northerly.	Went in the boat to try the heat of the sea-water, and found that a thermometer which stood at 32 $\frac{1}{2}$ in the open air, stood at 30 in the water at the surface, and at 34 when drawn up from the depth of 100 fathoms, where it had lain 17', and we were 5 $\frac{1}{2}$ drawing it up. While we were doing this, so thick a fog came on, that it was with the utmost difficulty, and after some considerable time, that we found the ships again.—Much ice.
a — 15.	30	28.57	32		N. W.	Little wind, with fog and snow. Ice, whales, and peng.
u — 16.	31	28.7	31 $\frac{1}{2}$		N. W.	Little wind, fog and snow. Much ice.
u — 17.	32	29.3	33 $\frac{1}{2}$		N. W.	Mod. wind, and cloudy, with fleet. Ice, whales, seals, &c.
e — 18.	30 $\frac{1}{2}$	29.4	31		N. W.	Brisk wind and thick fog. Many ice islands.
h — 19.	31	29.12	31 $\frac{1}{2}$	31 $\frac{1}{2}$	Variable.	Mod. wind, and foggy. Many large ice isl.
o — 20.	33	29.05	34	33	N. W.	Brisk wind, with snow. Some ice islands.
d — 21.	32 $\frac{1}{2}$	29.05	33 $\frac{1}{2}$	34 $\frac{1}{2}$	N. W.	Brisk wind, and hazy. Several ice islands.
a — 22.	32 $\frac{1}{2}$	29.2	33		S. W.	Moderate wind, and cloudy. A thermometer which stood at 33 in the open air fell to 32 in the water at the surface, and stood at 34 $\frac{1}{2}$ when drawn up from the depth of 100 fathoms, where it had been 16', and we were 6 $\frac{1}{2}$ drawing it up.—Many ice islands.
u — 23.	33	29.65	34		N. W.	Mod. wind, and cloudy, with snow. Some ice.
u — 24.	32 $\frac{1}{2}$	29.4	35		Variable.	Little wind, and cloudy. Ice.
e — 25.	31 $\frac{1}{2}$	29.05	32 $\frac{1}{2}$		South.	Moderate wind, and cloudy. Some ice.
h — 26.	30 $\frac{1}{2}$	29.15	31 $\frac{1}{2}$	32	S. W.	Brisk wind, and cloudy. Much ice.
o — 27.	33 $\frac{1}{2}$	29.45	36		East.	Little wind, and cloudy. Whales, peng. & ice.
d — 28.	33	29.07	35		East.	Brisk wind, and cloudy. No ice seen.
a — 29.	31 $\frac{1}{2}$	29.2	36		Variable.	Mod. wind, with snow. Many peng.; some ice.
u — 30.	33 $\frac{1}{2}$	29.07	36 $\frac{1}{2}$		S. E.	Little wind; snow and fleet. Seals and peng.
u — 31.	31	29.0	31 $\frac{1}{2}$	31	S. E.	Brisk wind, and cloudy. Peng. seals, &c.
1773.						
e Jan. 1.	31	28.95	31 $\frac{1}{2}$	31	S. W.	Brisk wind, with fleet. Some ice and peng.
h — 2.	31	29.55	32		Variable.	Brisk wind, and cloudy. Whales, peng. & ice.
o — 3.	31	29.37	31		N. E.	Brisk wind; snow and fleet. The rigging so cumbered with ice, that the ship was worked with the utmost difficulty, and many people were hurt by its falling.
d — 4.	32	29.5	33	33	N. W.	Brisk wind, with fleet. The rigging still loaded with ice.
a — 5.	33 $\frac{1}{2}$	29.4	34		N. W.	Brisk wind, and cloudy. One ice island only.
u — 6.	33 $\frac{1}{2}$	29.17	34 $\frac{1}{2}$		N. W.	Ditto. Few ice islands.
u — 7.	34	29.07	35		N. W.	Brisk wind; snow and fleet. One ice island.
e — 8.	33 $\frac{1}{2}$	29.12	34 $\frac{1}{2}$		N. W.	Mod. wind, and cloudy. Several ice islands.
h — 9.	33 $\frac{1}{2}$	29.22	35		N. W.	Light breezes, and cloudy, with snow at times. Took up a great quantity of ice to melt for water. That water melted from the ice usually found floating in the sea is fresh and good, is no new discovery. The Hudson's Bay ships have long made use of it; and I have mentioned it, from my own experience, in the account of a Voyage to Hudson's Bay. See Phil. Transf. vol. 12. for the year 1770.
o — 10.	31 $\frac{1}{2}$	29.25	34		North.	Mod. wind, and cloudy, with snow at times.
u — 11.	34	29.27	35 $\frac{1}{2}$		East.	Ditto, and cloudy. Several ice islands.

1773		Morn		Noon		Even		Winds	Weather &c
		Ther	Barom	Ther	Barom	Ther	Barom		
8	Jan 12	35	29.20	35				S S W	Moderate wind and cloudy, with snow
Took up more ice for water. A thermometer which stood at 37 in the open air, stood at 33½ in the water, at the surface and at 32 when drawn up from 100 fathoms below it. Whilst we were waiting for the boats, many large pieces were broke off by the sea from a very large Ice Island which was near us, so that it is plain those huge masses of Ice can exist but for a short time.									
8	13	34½	29.3	38				S E	Calm Cloudy, with snow Some Ice Is.
4	14		29.17	35½				S E	Little wind, and cloudy Some Ice Islands
9	15	35	29.07	42		34½		S E	Little wind, with snow at times
6	16	34	29.05	35		34½		S E	Brisk wind, and cloudy, with sleet
0	17	33½	29.1	34				S L	Brisk wind, and foggy Lacked from a very large, and apparently firm field of ice, amidst an amazing number of very large Ice Islands
11	18	32	28.95	34½		33		S E	Brisk wind, with sleet Little ice
8	19	35	29.1	35		34½		S E	Brisk wind, and cloudy Few Ice Islands
8	20	33½	28.67	33½		34½		S E	Ditto Several Ice Islands
11	21	35	28.55	35½		35½		S W	Moderate wind, snow and sleet Several Ice Islands
9	22	35½	28.95	37½				S W	Moderate wind with sleet The two time keepers being put one on each side of the great cabin, I put a thermometer by each, and before a fire was kept in the cabin, I never saw them differ more than half a degree but since there has been a fire, I have constantly found that thermometer highest which happened to be on the weather side, sometimes by 3, whereas one would naturally have expected it to have been just the contrary Much ice
6	23	35	29.02	36½		35½		S W	Brisk wind, hail, snow and sleet Some ice
0	24	34½	29.27	34½		34½		N E	Brisk wind, and cloudy Several Ice Islands
11	25		28.85	36½		35		S E	Brisk wind, and foggy Little ice
8	26	34	29.27	35		35½		S W	Little wind, foggy, with rain No ice
8	27	35½	28.9	35		36		N W	Little wind, and flying clouds Some Ice Islands
11	28	38	29.42	36½		36½		N W	Brisk wind with sleet snow and rain Several Ice Islands
9	29	37	29.65	38		37½		North	Strong wind, with rain, and very thick fog
0	30	38½	29.57	39½		40		N W	Strong wind with thick fog, and rain
11	31	38	29.55	38½		39		N W	Strong wind, and cloudy Some ice
8	Feb 1	40½	29.95	41½		40		N W	Brisk wind and cloudy Penguins and divers
8	2	43	29.92	45½		46½		North	Brisk wind, and foggy, with rain at times
11	3	43½	29.8	46		46		N W	Moderate wind, and hazy Sea weed & divers
11	4	42½	29.65	45		43½		N W	Moderate wind, and cloudy
9	5	40	29.6	41		41		N W	Ditto
6	6	43	29.47	43½		44½		N W	Brisk wind, and drizzling rain
0	7	44	29.7	44		45		N E	Brisk wind, and cloudy
11	8	40	29.25	43½				N E	Brisk wind and thick fog Rain at times Penguins
8	9	43½	28.85	45				N W	Strong wind, and foggy, with rain Penguins
11	10	40	29.45	41½		41		N W	Strong wind, and cloudy
11	11	40	29.17	40				N W	Brisk wind, with rain Many penguins
9	12		29.55	38		38		S W	Brisk wind, and clear weather Many penguins
6	13	35	29.6	36		38½		West.	Ditto Many penguins
0	14	35½	29.37	35½		36		S W	Moderate wind, snow and sleet Snow a seal
11	15	35	29.4	36½		36½		S W	Brisk wind, and cloudy Several seals
8	16	35	29.5	34				East	Little wind with snow Mr Pickersgill's South light

1773.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.	Therm.		
Feb. 17.	33½	29,02	35				S. S. W.	Moderate wind, and cloudy, with snow. About one o'clock in the morning Mr. Clerke, who had the watch, told me that the same appearance which Mr. Pickersgill had seen the night before was very bright. I got up, and found it to be the very same phenomenon which we call the Northern Lights in England. The natural state of the heavens, except in the S. E. quarter, and for about 10° of altitude all round the horizon, was a whitish haze, through which stars of the third magnitude were just discernable. All round, the horizon was covered with thick clouds, out of which arose many streams of a pale reddish light, that ascended towards the zenith. These streams had not that motion which they are sometimes seen to have in England; but were perfectly steady, except a small tremulous motion which some of them had near their edges. Took up ice for water.
18.	32	29,12	33	33			S. W.	Moderate wind, and cloudy. Several Ice Is.
19.	33½	29,2	35	33½			S. W.	Brisk wind, and squally, with snow at times. Many large Ice Islands. In the night the southern lights were very bright at times, and the colours much more various and vivid than they were on Wednesday night, their motion also was greater, so that on the whole they were extremely beautiful.
20.	32½	29,3	35				W. S. W.	Moderate wind, and hazy. Many large Ice Islands, and a strong appearance of land to the westward, which proved only a fog-bank. At nine o'clock in the evening the southern lights sprung up very bright about the east point of the horizon, in a single steady pillar, of a pale reddish light. Its direction was not directly towards the zenith, but gradually deflected towards the south, and grew fainter as it ascended, so as to vanish about S. E. and at 45° of altitude.
21.	34½	29,42	36½				N. E.	Little wind, with snow. Many Ice Islands.
22.	45½	28,82	34				S. E.	Ditto.
23.	34	28,72	35	33½			S. E.	Strong wind, with snow, and so thick a fog, at times, that we could scarcely see a ship's length, and at the same time were surrounded with a prodigious number of very large islands of ice. In the morning I saw one burst, in an instant, into three large, and a great many small pieces. It made no report, or at least so small a one that we could not hear it for the noise of the sea, and the whistling of the wind in the rigging.
24.	34	28,55	35	35			Variable.	Strong wind, with sleet. Many large Ice Is.
25.	35	29,0	36½	36½			N. E.	Little wind, and cloudy, with snow. Several Ice Islands.
26.	35	29,1	36½	33			South.	Little wind, and cloudy. Saw the South. lights.
27.	34	28,42	34½				S. W.	Strong wind, with sleet. Whales and ice.
28.	35½	29,0	36½				Variable.	Strong wind, and foggy. Porpoises and ice.
March 1.	35	28,35	35½	36½			N. E.	Brisk wind, with snow. Several Ice Islands.
2.	37	28,55	38				S. W.	Little wind, thick fog, and rain.
3.	36	29,05	38				Variable.	Little wind, and foggy. Several penguins.
4.	35½	28,82	36				N. W.	Brisk wind, with snow and rain.
5.	36	28,87	37½				S. E.	Moderate wind, and foggy, with rain. Many islands of ice. One in particular, which we passed in the afternoon, was near a mile and half long, and very high: It was calm most part of the night, so that we found ourselves very near it in the morning, but observed that several very large pieces had broke off from it. Many great reports, like thunder, were heard in the night, which I conceive were occasioned by these pieces breaking off.

1773		Morn		Noon		Even		Winds	Weather &c.
		Therm	Barom	Therm	Therm	Therm	Therm		
2	March 5	An almost universal dissolution began, about this time, to take place among these vast and, to us, tremendous bodies of frigid matter. One large Ice Island							
h	6	36 ¹	28,95	37	37			Variable	Moderate wind and cloudy. Saw the southern lights.
O	7	35 ¹	28,57	34 ¹				South	Little wind, with sleet. Saw the South lights.
h	8	35 ¹	28,92	40				S. E.	Little wind and cloudy.
h	9	36 ¹	28,62	37	35			S W	Strong wind, and squally, with rain and sleet.
h	10	33	29,0	35				Variable	Brisk wind and cloudy. Saw sea weed.
h	11	35	29,15	37				East	Moderate wind, with snow and sleet.
h	12	37 ¹	28,97	39 ¹	37			S E	Moderate wind, with drizzling rain.
h	13	35	28,7	36 ¹	35			Variable	Moderate wind. Snow and rain.
O	14	31 ¹	28,87	33				S W	Brisk wind. Snow and rain.
h	15	31 ¹	28,85	34				Westerly	Moderate wind and cloudy. The southern lights very bright at times, and exceeding beautiful. Their colours being vivid, and their motion quick and curious.
h	16	33 ¹	29,12	35 ¹	36			S S W	Brisk wind, and squally, with snow.
h	17	34	29,45	35 ¹				N W	Brisk wind, and cloudy.
h	18	39	29,82	41 ¹				West	Brisk wind, with rain at times. A little after nine o'clock in the evening it was very clear and the southern lights were exceeding bright and beautiful, and appeared of a semicircular, or rainbow like form, whose two extremities were nearly in the east and west points of the horizon. This bow, when it first made its appearance passed a considerable way to the north of the zenith; but rose by degrees, turning, as it were, on its diameter, and passing through the zenith settled at length, towards the southern horizon. These lights were at one time so bright, that we could discern our shadows on the deck.
h	19	41 ¹	29,82	43				N W	Brisk wind and cloudy. Sea weed peng and porpoises.
h	20	45 ¹	29,75	45				West	Strong wind, and hazy.
O	21	45 ¹	29,95	46				N W	Brisk wind, and cloudy; saw seals & sea weed.
h	22	45 ¹	29,85	47				S E	Brisk wind with showers.
h	23	47	30,17	49	49			Ditto	Brisk, and cloudy.
h	24	50	29,95	52 ¹	54 ¹			Ditto	Mod wind & foggy with rain. Last seen weed etc.
h	25	52	29,85	54	52 ¹			Variable	Brisk wind and squally with rain.
h	26	52	30,15	53 ¹				S W	Moderate wind, and fine weather.
h	27	50	30,28	55				Westerly	Ditto with showers.
O	28	55	30,38	56 ¹				N W	Ditto, and much rain.
h	29		30,41	60				N W	Ditto, with frequent showers.
h	30		30,36	61				North	Strong wind and heavy rain.
h	31		30,14	62 ¹				North	Moderate wind with heavy showers.
h	April 1		30,03	61				N W	Ditto, and fine weather.
h	2		29,75	56 ¹				N W	Ditto, and showers.
h	3		29,71	58				N N W	Brisk wind, with drizzling rain.
O	4		29,65	58				N N W	Moderate wind, with some heavy showers.
h	5	48 ¹	29,98	54				Variable	Brisk wind, with heavy showers.
h	6	46 ¹	30,24	60 ¹	58 ¹			Ditto	Moderate wind, with much rain.
h	7	49	30,39	52				Ditto	Ditto, with constant heavy rain.
h	8	48	30,22	50 ¹				Ditto	Ditto, and rain without intermission.
h	9	51	30,04	52				Westerly	Ditto.
h	10	50	29,92	51 ¹				N W	Ditto.

1773.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.			
○	April 11.	48	30,13	54	53	Variable.	Little wind, with frequent showers.	
○	12.	47½	30,20	50		Westerly.	Little wind, and almost continued heavy rain.	
○	13.	50½	30,18	58		Ditto.		
○	14.	52½	29,82	53		Ditto.		
○	15.	50½	29,99	53		Ditto.		
○	16.	51	30,04	58	54½	Ditto.		
○	17.	55	29,90	56	56	Ditto.		
○	18.	53½	29,95	58½	57½	Easterly.	Little wind, and fine weather.	
○	19.	50½	29,85	57½		Ditto.	Ditto.	
○	20.	50	29,77	57½	56	Ditto.	Ditto.	
○	21.	46½	29,68	55	56	Ditto.	Ditto.	
○	22.		29,67	53	45	Ditto.	Moderate wind, and heavy showers.	
○	23.		29,76	52½		Westerly.	{ Gentle breezes, with some showers.	
○	24.		29,82	53½		Ditto.		
○	25.		29,95	33½		Ditto.	Little wind, and fine clear weather.	
○	26.		29,88	51½		N. E.	Moderate wind, with much rain.	
○	27.		30,02	50		N. W.	Ditto, with heavy showers.	
○	28.		30,26	47		Westerly.	Light breezes, and cloudy, with showers.	
○	29.		30,24	48½		Ditto.	Ditto.	
○	30.		30,38			N. E.	Ditto.	
○	May 1.		30,39	50½		Variable.	Ditto, with drizzling rain.	
○	2.		30,42	51			Calm, with showers.	
○	3.		30,23	48			Calm, with continued heavy rain.	
○	4.		29,98	51½		Variable.	Gentle breezes, with frequent showers.	
○	5.		29,96	46		S. W.	Ditto, with smart showers of rain.	
○	6.		30,42	51		N. W.	Moderate wind, with showers.	
○	7.		30,23	50½		N. W.	Strong wind, thunder, lightning, hail & rain.	
○	8.		30,02	49½		Variable.	Brisk wind, and flying clouds, with showers.	
<p>I had frequently to-day, an opportunity of viewing a very curious phenomenon; namely, the descent of the snow on the tops of the prodigiously high, and almost perpendicular hills which every where surrounded us. The atmosphere, in general, was pretty clear, except some very thick whitish clouds, which were continually flying over us. When these came near any hill, they began to extend themselves towards it, and were drawn out into a sort of conical form, the vertex of which was towards the hill. By degrees, the cloud gathered round the top of the hill, and entirely covered it; from which time the cloud grew visibly less dense, and in a little time was totally dispersed; when it appeared that all the part of the hill which had been immersed in the cloud was covered with snow.</p>								
○	9.		30,35	49		N. E.	Brisk wind, and flying clouds.	
○	10.		30,01	53		N. E.	Ditto, with showers of hail and rain.	
○	11.		30,27	44½		S. W.	Moderate wind, and flying clouds.	
○	12.	46	30,32	49		N. W.	Ditto, with showers.	
○	13.	53	30,3	55		S. W.	Brisk wind, and cloudy.	
○	14.	56	30,47	58		S. E.	Little wind, and hazy weather.	
○	15.	53	30,3	56		N. E.	Ditto.	
○	16.	56	29,75	59		Westerly.	Brisk wind, in squalls, with rain.	

1773	Morn		Noon		Even		Winds	Weather &c
	Therm	Barom	Therm	Therm	Therm	Therm		
1773								
17 May 17	51½	29,65					Southerly	Moderate wind, and flying clouds
<p>afternoon we had an opportunity of observing, in a complete manner as could be wished, one of the most curious, and perhaps the most extraordinary and powerful, of Nature's productions</p> <p>The forenoon had been in general pretty clear but subject to heavy squalls of wind, and some flying clouds, which were very black and heavy, and moved with great velocity from the S W towards the N E (the direction of the wind) About four o'clock in the afternoon it became calm, and the heavens were almost covered with very black clouds, particularly towards the W and N W and presently after we saw several tail like appearances, depending from the clouds in that quarter These appearances were whiter than the clouds they hung from, which made them very conspicuous and they increased gradually, in length, until they extended, as near as I could judge, about one sixth part of the distance between the cloud and the surface of the sea About this time, the water under them began to be violently agitated and lifted up with a whirling motion towards the impending part of the cloud, which, on account of a motion they all had the contrary way to that the wind had blown, was not directly over it, but a little towards the S W As the water rose, the end of the cloud descended, and in a little time they joined; after which the water appeared to me to ascend out of the sea, into the cloud, with great velocity I think that none of these spouts, as they are usually called, continued entire more than ten minutes perhaps not quite so long I saw four complete at one time but there were great numbers which began to form, and were dispersed, by what cause I know not, before the cloud and water joined One of them came, I was told, within 30 or 40 yards of the ship which lay becalmed; but I was then below looking at the Barometer when I got upon deck, it was about 100 fathoms from her It is impossible to say what would have been the consequences if it had gone over her; but I believe they would have been very dreadful At the time when this happened, the Barometer stood at 29,75 inches, and the Thermometer at 56</p> <p>The whole of this passed within the space of an hour, or thereabouts; for at five o'clock a small breeze of wind sprung up in the S E quarter, and dispersed every appearance of this kind, although the black clouds remained until about ten when the wind veered round to the W S W and settled there in a moderate steady gale, and the weather cleared up The annexed plate, No 4, was engraved from a drawing of Mr Hodges, taken at the time; in which he has exhibited the appearance of one of them in three several states, and also the appearance of that which approached so near to the ship</p>								
18	55	29,57	49				S W	Little wind, and fine weather
19	50	29,69	55				Ditto	Ditto
20		29,98					Northerly	Moderate wind, and cloudy
21		30,11	57				Variable	Ditto, and mostly cloudy
22		30,11	56½				Northerly	Ditto, and cloudy
23		30,16	55½				S W	Little wind, and fine weather
24		30,35	53	56			Westerly	Brisk wind, and fine weather
25		30,15	56				S W	Ditto, and cloudy weather
26		29,69	57½				Ditto	Ditto
27		29,68	58				Ditto	Ditto
28		29,66	58				Ditto	Ditto

1773.	Morn. Therm	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
h May 29.		29,77	56½		S. W.	Brisk wind, and cloudy weather.
o — 30.	54	29,81	57½	57½	Westerly.	Moderate wind, and fine weather.
d — 31.		30,02	51½		S. W.	Ditto and mostly cloudy, with showers.
h June 1.		30,28	50½		W. S. W.	
h — 2.		30,20	49		S. W.	
h — 3.	48	30,20	51½	54½	Ditto.	Ditto, and fine weather.
h — 4.		30,4	51½		Southerly.	Ditto, and cloudy.
h — 5.		30,41	49½		S. S. E.	Strong wind, with rain.
o — 6.		30,3	51½		Ditto.	Ditto.
h — 7.		30,15	55		North.	Moderate wind, and fine weather.
h — 8.	51½	29,90	52	52	Ditto.	Ditto.
h — 9.	53½	29,82	55		Ditto.	Ditto.
h — 10.	52½	29,7	54		Ditto.	Ditto.
h — 11.	51½	29,77	51½		Ditto.	Moderate wind, and cloudy, with rain.
h — 12.	49½	29,67	51½		Variable.	Moderate wind, with rain.
o — 13.	50	30,0	51½		S. E.	Moderate wind, and cloudy, rain at times.
h — 14.	49½	29,65	49		S. W.	Moderate wind, with drizzling rain.
h — 15.	46	29,7	48½	48	East.	Ditto.
h — 16.	48½	29,75	49		S. E.	Brisk wind, with rain.
h — 17.	49½	29,75	49½		Ditto.	Brisk wind, and cloudy, rain at times.
h — 18.	49½	29,8	48	47½	Ditto.	Brisk wind, and cloudy weather.
h — 19.	47	30,12	48		South.	Moderate wind, and cloudy.
o — 20.	48	30,15	48½		S. W.	Ditto.
h — 21.	48	30,27	50½		Ditto.	Ditto.
h — 22.	50½	30,35	52½		N. W.	Ditto.
h — 23.	49½	30,27	50½		East.	Ditto.
h — 24.	51½	29,47	51½		Ditto.	Strong wind, with rain.
h — 25.	54	29,22			N. E.	Brisk wind, with rain.
h — 26.	54	29,27	55½		East.	Ditto, and cloudy.
o — 27.	52½	29,12	53½		S. W.	Little wind, and foggy.
h — 28.	52	29,4	52½	50½	Variable.	Ditto.
h — 29.	51	29,4	52½	51½	Ditto.	Moderate wind, and cloudy.
h — 30.	49½	29,65	51½		South.	Ditto.
h July 1.	48	29,75	49	49½	Ditto.	Moderate wind, and flying clouds.
h — 2.	45	29,8	47		N. W.	Ditto, and fine weather.
h — 3.	48	29,62	49½	49	N. E.	Ditto, with showers.
o — 4.	49½	29,75	48½	49	S. E.	Ditto, and fine weather.
h — 5.	48	29,85	48	49½	Ditto.	Brisk wind, with rain.
h — 6.	50½	29,67	51		Ditto.	Ditto, and cloudy.
h — 7.	51	29,47	52½		West.	Moderate wind, and fine weather.
h — 8.	51½	29,45	51½	51½	S. W.	Ditto, with showers.
h — 9.	49	29,85	50½	51	N. W.	Ditto, and cloudy.
h — 10.	52½	29,82	51		South.	Brisk wind, and cloudy: rain at times.
o — 11.	45	30,3	47	47½	S. W.	Moderate wind, and fine weather.
h — 12.	47	30,27	49	49	West.	Ditto.
h — 13.	47½	30,27	49½	49	Variable.	Little wind, and fine weather.
h — 14.	48	30,1	50		N. E.	Moderate wind, and cloudy.
h — 15.	49½	29,65	52		South.	Moderate wind, rain, and thick fog.

1773	Mo	Noon		Even	Winds	Weather
		Therm	Barom			
9 July 16	46	29.5	46	46 $\frac{1}{2}$	South	Brisk wind, and cloudy with rain at times
17	44	29.8	44 $\frac{1}{2}$	45	Ditto	Ditto, with showers of hail and rain
18	47 $\frac{1}{2}$	30.2	49 $\frac{1}{2}$	49	S W	Moderate wind, and fine weather
19	51 $\frac{1}{2}$	30.32	54	54	South.	Ditto
20	52 $\frac{1}{2}$	30.15	58 $\frac{1}{2}$		East	Moderate wind, and cloudy
21	56 $\frac{1}{2}$	29.62	59 $\frac{1}{2}$	61	Ditto	Brisk wind, and foggy
22	61	29.62	63	62 $\frac{1}{2}$	West	Moderate wind, and fine weather rain at times
23	61 $\frac{1}{2}$	29.85	63 $\frac{1}{2}$		N. W	Ditto, and cloudy, with rain
24	65	29.85	64 $\frac{1}{2}$		Ditto	Strong wind in squalls with rain
25	66	29.82	65 $\frac{1}{2}$	62	Ditto	Strong wind, and heavy rain
26	66	29.90	66 $\frac{1}{2}$	67	Ditto	Moderate wind, and fine weather
27	67 $\frac{1}{2}$	30.07	67 $\frac{1}{2}$	69	Variable	Ditto, and hazy
28	66	30.05	69	68	N W	Little wind, and fine clear weather
29	68	29.97	69 $\frac{1}{2}$	70	Ditto	Moderate wind, and hazy weather
30	68 $\frac{1}{2}$	29.92	71		Ditto	Ditto and cloudy, with rain
31		29.92	68	68	Ditto	Little wind and flying clouds
Aug 1	68	29.77	68 $\frac{1}{2}$		S W	Brisk wind, and squally, with showers
2	68	29.87	69 $\frac{1}{2}$	70 $\frac{1}{2}$	West.	Gentle breezes, and fine weather
3	69 $\frac{1}{2}$	30.05	71 $\frac{1}{2}$	72 $\frac{1}{2}$	N W	Ditto
4	72	30.05	74		Ditto	Moderate wind, and fine weather
5	76 $\frac{1}{2}$	30.02	76 $\frac{1}{2}$	77 $\frac{1}{2}$	Ditto	Brisk wind, and fine weather
6	77	30.1	78		Variable	Little wind, and cloudy, with rain at times
After many wishes, and long expectation we this day got the S E Trade wind						
Its manner of coming on was rather remarkable About 10 o'clock in the morning,						
a thick haze began to rise in the Eastern quarter, which by noon was become so						
thick, and had spread so far, that it was with difficulty we got the sun a meridian						
altitude, but the N W wind, which we had had for about a fortnight, during						
which time the weather was generally very fine and pleasant, still continued to						
blow In the afternoon we had some pretty brisk showers, with which the N W						
wind died away, and it was calm till eight o'clock in the evening, when a brisk,						
steady gale sprung up at S E, and proved permanent.						
7	73	30.12	75		S E	Brisk wind, and cloudy
8	72 $\frac{1}{2}$	30.2	75		Ditto	Ditto, and fine weather
9	73	30.22	76 $\frac{1}{2}$		Ditto	Ditto, with rain at times
10	74 $\frac{1}{2}$	30.2	78 $\frac{1}{2}$	77 $\frac{1}{2}$	East	Ditto, and cloudy
11	75	30.07	78 $\frac{1}{2}$		Ditto.	Moderate wind, and fine weather
12	76 $\frac{1}{2}$	30.07	78 $\frac{1}{2}$	79	Ditto.	Ditto
13	76 $\frac{1}{2}$	30.1	79 $\frac{1}{2}$	79	Ditto	Ditto
14	78	30.12	79		Ditto	Ditto
15	77	30.1	80	80	Ditto	Ditto
16	79	30.07	80 $\frac{1}{2}$		Ditto	Ditto
17	75	30.02	81 $\frac{1}{2}$		S E	Light winds and mostly fine weather
18	73 $\frac{1}{2}$	30.03	81	80	Variable	Ditto, very hot
19	73 $\frac{1}{2}$	30.12	80	80	Ditto	Ditto
20	77 $\frac{1}{2}$	30.1	79 $\frac{1}{2}$	79 $\frac{1}{2}$	S E	Ditto
21	84 $\frac{1}{2}$	30.05	82		Ditto	Ditto
22		30.02	81	80 $\frac{1}{2}$	N W	Ditto
23	76 $\frac{1}{2}$	30.05	78		Calm	Strong wind, and cloudy weather
						Very clear, and extremely hot

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
Aug. 24.	75½	30,02	75½		Variable.	Little wind, and cloudy, with showers.
25.	74½	30,05	78		Ditto.	Ditto, and flying clouds.
26.		30,13			Variable.	Fine weather, and very hot.
27.	69½		84½		Easterly.	Ditto.
28.		30,21	82	78	Ditto.	Ditto.
29.	75	30,2	90		Ditto.	Ditto.
30.	77½	30,2	91	83½	Ditto.	Ditto.
31.	79	30,16	93	89	Ditto.	Ditto.
Sept. 1.		30,0			Variable.	Brisk wind, with flying clouds.
2.	76	29,95	77		Easterly.	Ditto.
3.	75	30,1	76½	77½	Ditto.	Moderate wind, and flying clouds.
4.		30,08	77	78	Ditto.	Ditto, and pleasant weather.
5.		30,08	77½	78½	Ditto.	Ditto.
6.		30,09	79		Ditto.	Ditto.
7.	77½	30,12	79½		Ditto.	Ditto.
8.	79	30,7	85		S. E.	Brisk wind, and very hot.
9.	77½	30,06	81	81½	Ditto.	Moderate wind, with showers.
10.		30,05	80½		Ditto.	
11.	75	30,06	79½		Ditto.	Ditto, and fine weather.
12.	74½	30,13	77	77½	Ditto.	Little wind, and hot sultry weather.
13.	74½	30,12	77	76	Ditto.	Brisk wind, and fine pleasant weather.
14.	74	30,13	76½		Ditto.	Strong wind, with showers.
15.		30,07	77	75½	Ditto.	Ditto.
16.	77½	30,04	77½		Ditto.	Ditto.
17.	72½	29,95	78½	77½	East.	Brisk wind, and pleasant weather.
18.	77	30,07	79	79½	Ditto.	Moderate wind, and flying clouds.
19.	77	30,02	79½	79½	Ditto.	Ditto.
20.		29,97	81½		Ditto.	Mod. wind & cloudy, rain, thunder, & lightn.
21.	78½	30,0	81	80½	Variable.	Ditto, thunder, &c.
22.	74½	29,97	77½	76½	S. E.	Brisk wind, and cloudy, with rain.
23.	69½	30,05	73		Ditto.	Moderate wind, and cloudy.
24.	72½	30,05	74	74½	Ditto.	Brisk wind, and squally, with rain.
25.	72½	30,02	73½	73½	Ditto.	Ditto, and squally.
26.	71½	30,05	73	71	Ditto.	Ditto, and drizzling rain.
27.	71½	30,07	71	70	Ditto.	Ditto, and cloudy.
28.	71	30,07	72½		East.	Moderate wind, and fine weather.
29.	71½	30,07	72½	72½	Ditto.	Ditto.
30.	70	30,12	70	70	S. E.	Brisk wind, and fine weather.
Oct. 1.	67	30,1	70	69	Ditto.	Ditto.
2.	67	30,12	71½	74	Ditto.	Ditto.
3.	70½	30,1	71½	69	Ditto.	Ditto.
4.	69	30,12	71½	72	Ditto.	Ditto.
5.	68	30,12	74½		Ditto.	Ditto.
6.	71½	30,05	75½	73½	Ditto.	Ditto.
7.	72½	30,05	73	74½	Ditto.	Moderate wind, and flying clouds.
8.	73½	29,95	76½	75	S. W.	Ditto.
9.	68½	30,30	73½		S. E.	Moderate wind, and cloudy.
10.	70	30,07	69½	70	Ditto.	Brisk wind, and ditto.

1773		Morn	Noon		Eveg	Winds	Weather &c
		Therm	Barom	Therm	Therm		
Oct	11	69	30.25	69 $\frac{1}{2}$	69 $\frac{1}{2}$	S E.	Brisk wind, and cloudy
	12	69 $\frac{1}{2}$	30.2	70 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto	Ditto
	13	66 $\frac{1}{2}$	30.2	70		Ditto	Ditto
	14	66 $\frac{1}{2}$	30.25	66 $\frac{1}{2}$		East	Moderate wind, and cloudy
	15	65	30.32	68 $\frac{1}{2}$	70	Ditto	Brisk wind, and cloudy at times
	16	65	30.27	68	67	N E	Moderate wind and clear weather
	17	63 $\frac{1}{2}$	30.26	69	66	Ditto	Little wind, and fine weather
	18	64	30.2	60		Ditto	Brisk wind, and ditto
	19	64 $\frac{1}{2}$	30.02	66 $\frac{1}{2}$		Variable	Ditto, and mostly cloudy showers
	20	61 $\frac{1}{2}$	29.72	60 $\frac{1}{2}$	61 $\frac{1}{2}$	West	Ditto, and flying clouds
	21	59 $\frac{1}{2}$	29.7	62	63 $\frac{1}{2}$	N W	Ditto
	22	58	29.17	59 $\frac{1}{2}$	60 $\frac{1}{2}$	S W	Brisk wind, and cloudy
	23	51 $\frac{1}{2}$	29.6	53 $\frac{1}{2}$	58	West	Strong wind, and cloudy, with rain
	24	57 $\frac{1}{2}$	29.37	60 $\frac{1}{2}$	62	N W	Strong wind, and cloudy the water in
Dr Lind's Wind gage was depressed 8 10ths of an inch at times We were now							
under bare poles							
	25	58	29.15	59 $\frac{1}{2}$		S W	Strong wind, and cloudy weather
	26	54 $\frac{1}{2}$	29.52	54	53	Variable	Brisk wind, and cloudy
	27	52 $\frac{1}{2}$	29.57	58	56	N W	Very strong wind and cloudy
	28	56	29.12	58	56 $\frac{1}{2}$	Westerly	Ditto, lightning
	29	51 $\frac{1}{2}$	29.62	52 $\frac{1}{2}$	53	N W	Ditto
	30	54	29.4	58 $\frac{1}{2}$		Ditto	Ditto
	31	55 $\frac{1}{2}$	29.22	57		Variable	Ditto
Nov	1	54 $\frac{1}{2}$	29.22	50 $\frac{1}{2}$		Ditto	Brisk wind, with rain and thick fog
	2	52	29.45	51 $\frac{1}{2}$		S E	Strong wind, and cloudy, with showers
	3	51 $\frac{1}{2}$	29.85	58 $\frac{1}{2}$	58 $\frac{1}{2}$	Variable	Little wind, and fine weather
	4	54	29.82	62 $\frac{1}{2}$		Ditto	Moderate wind, with showers
	5		29.67			Ditto	Brisk wind, with rain, and very cold
	6	52	30.06	61	55 $\frac{1}{2}$	Ditto	Moderate wind, and cloudy weather
	7		30.2	67		Northerly	Brisk wind, and fine weather, mostly
	8	52	29.98	56		Southerly	Cloudy, with rain, and cold raw weather
	9	50	30.2	59	56 $\frac{1}{2}$	Ditto	Wind moderate, and weather warmer
	10	60	29.8	52 $\frac{1}{2}$	61	Variable	Mostly cloudy, with showers
	11		30.08	51 $\frac{1}{2}$		Ditto	Much rain and cold disagreeable weather
	12	61	30.51	67 $\frac{1}{2}$	61	Ditto	Moderate wind, and cloudy
	13	56 $\frac{1}{2}$	30.40	69 $\frac{1}{2}$	64	Southerly	
	14	56 $\frac{1}{2}$	30.33	70	65 $\frac{1}{2}$	Ditto	
	15	61	30.17	67	61 $\frac{1}{2}$	Ditto	Ditto, and fine weather
	16	61	30.09	69 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto	
	17		29.99	76		Northerly	Brisk winds with rain
	18	70 $\frac{1}{2}$	29.7	73 $\frac{1}{2}$	71 $\frac{1}{2}$	N W	Strong wind with ditto
	19	65	29.5	61		Ditto	Brisk wind, with ditto
	20	51 $\frac{1}{2}$	29.7	62	47 $\frac{1}{2}$	S W	Moderate wind and mostly cloudy showers
	21		29.95	60		N W	Ditto, with heavy rain at times
	22		30.2	61		Ditto	Wind moderate, and fine pleasant weather
	23		30.29	61		Ditto	Moderate wind, and ditto
	24		30.29	66		Variable	Ditto, and flying clouds showers
	25		30.31	61 $\frac{1}{2}$		N W	Brisk wind, and fine weather
	26	61	30.17	63 $\frac{1}{2}$		North	Moderate wind and cloudy

1773.	Morn. Therm.	Noon.		Even. Therm.	Winds.	Weather, &c.
		Barom.	Therm.			
h Nov. 27.	63½	29,97	62	61	Variable.	Brisk wind, and flying clouds.
o — 28.	54	30,2	56		North.	Little wind, and hazy. Rain at times.
d — 29.		30,1	55	54½	S. W.	Mod. wind, and cloudy. Sticks & sea-weed.
8 — 30.	48	29,97	49	49	Ditto.	Brisk wind, and cloudy.
h Dec. 1.	48	30,0	49½		Ditto.	Ditto, with fog.
h — 2.		29,92	46½		Ditto.	Mod. wind, and foggy. Peng. and sea-weed.
h — 3.	44	29,6	47		N. W.	Ditto. Penguins and seals.
h — 4.	46½	29,8	47½		S. E.	Little wind, with fog and rain. Penguins.
o — 5.	45	29,75	46½	46½	Easterly.	Little wind, and fine weather. Seals.
d — 6.	47½	29,55	49		North.	Mod. wind, and foggy. Seals and sea-weed.
8 — 7.	48	28,95	49	48½	N. W.	Brisk wind and foggy, with rain. Drift-wood.
h — 8.	50	29,45	43½	43	N. W.	Strong wind, and foggy.
h — 9.	44½	29,72	44½	43½	S. W.	Ditto, with rain.
h — 10.	36½	29,45	36½	35½	Westerly.	Ditto, with fleet.
h — 11.	38½	29,07	39½	39½	S. W.	Brisk wind, with rain and snow. Saw an ice isl.
o — 12.	31½	29,07	32½	35	Ditto.	Brisk wind, and squally. Snow and hail.
d — 13.	30	28,92	32		West.	Brisk wind, and foggy. Much snow and ice.
8 — 14.	31½	29,07	34½	35	Ditto.	Ditto. Much ice.
h — 15.	43	28,87	31		Ditto.	Brisk wind, with snow. Many ice isles.
h — 16.	29½	29,42	33		N. E.	Mod. wind, and cloudy; snow. Took up ice for water.
h — 17.	31½	29,07	33½	33	North.	Mod. wind, and foggy: snow at times. Ice.
h — 18.	33	29,0	33		Ditto.	Ditto, and thick fog. Several ice islands.
o — 19.	33	28,8	34		Ditto.	Ditto, and foggy. Much ice.
d — 20.	33	29,2	33		N. E.	Ditto, and cloudy. Much loose ice.
8 — 21.	33	28,7	34		Ditto.	Brisk wind, thick fog, and fleet. Many ice isl.
h — 22.	31½	28,95	33		North.	Ditto, and foggy. Many ice islands.
h — 23.	31½	29,22	35	29½	Ditto.	Mod. wind, and foggy. Abundance of ice.
h — 24.	31½	28,62	32	33	N. W.	Ditto. Many islands of ice.
h — 25.	33	29,2	34		Ditto.	Little wind, and cloudy. 96 ice isles seen at one time.
o — 26.	35	29,17	37	35	Ditto.	Ditto. 200 ice isles seen at one time.
d — 27.	36	29,0	35	34	N. E.	Ditto. Much ice: Took some up for water.
8 — 28.	32	28,65	33½		S. E.	Brisk wind, with snow. Some ice islands.
h — 29.	33½	28,62	33	34½	Southerly.	Mod. wind, much snow, and many ice isl.
h — 30.	32	28,77	34½	37	S. W.	Little wind, and cloudy. Few ice islands.
h — 31.	33	29,05	35½	35	Variable.	Little wind, and cloudy, with fleet at times.

* * To-day, while we were observing the meridian altitude of the sun, a shower of snow came from the west, and passed a-head of the ship; during which, a large island of ice, considerably within the visible horizon, and directly under the sun, was entirely hid by it; yet the horizon appeared as distinct, and much the same as it usually does in dark hazy weather. When the shower was over, I found that it required the sun to be dipped something more than his whole diameter to bring his lower limb to the nearest edge of the ice island, which must have been farther off than the visible horizon, during the shower; and yet this would have been taken as the real horizon, without any suspicion, if it had been every where equally obscured. Hence may be inferred the uncertainty of altitudes taken in foggy, or what seamen, in general, call hazy weather.

1774		Morning			Even	Winds	Weather
		Therm	Barom	Therm	Therm		
h	Jan 1	34	29.87	36½	37½	S W	Moderate wind, and cloudy, with rain
O	—	34½	9.05	38½		S E	Ditto
D	—	36½	29.12	36	39	N W	Brisk wind with snow and sleet
h	—	44½	29.27	46½		Ditto	Ditto, and foggy with rain
h	—	47	29.22	46½		Ditto	Strong wind, and cloudy some at time
h	—	46	29.22	47	50	Ditto	Brisk wind, and cloudy
h	—	47½	29.25	50	50½	Ditto	Brisk wind, and flying clouds
h	—	47½	29.47	49½	50	West	Ditto
O	—	49	29.7	51		Ditto	Ditto Many birds
D	—	49	29.52	52½		Ditto	Mod wind, and flying cloud Many birds
h	—	43½	29.47	50	50	N W	Brisk wind and squally with shower
h	—	53	29.71	56	55	Ditto	Ditto, and flying clouds
h	—	5	29.45	53½		Ditto	Ditto, and foggy Sea weed
h	—	51	9.41	51½	54½	Ditto	Ditto, and foggy
h	—	48½	29.27	51		Ditto	Strong wind and foggy, with rain
O	—	48	29.77	47½	49	West	Brisk wind and hazy
D	—	43	29.67	41½	41	Ditto	Ditto, with rain and sleet
h	—	40	28.9	40	41½	Variable	Ditto and foggy, with rain at time
h	—	39	28.6	39½		Ditto	Ditto, with rain Sea weed
h	—	47	28.52	40	38	S E	Ditto and cloudy Saw two ice all and
h	—	36	28.57	37	38	Ditto	Ditto and cloudy with sleet at times
O	—	36	28.7	37½		S W	Mod wind snow and rain Several ice all
D	—	37	28.57	38½		S W	Ditto, and cloudy Sleet, and some ice all
h	—	40½	28.57	39		N W	Brisk wind and cloudy One ice all and
h	—	39	28.82	42½	39½	Ditto	Moderate wind and foggy Sleet
h	—		29.05	40	36	N E	Little wind, and cloudy several ice all and
h	—	37	28.72	37½		Ditto	Mod wind, and thick fog Some ice all
h	—	35	28.85	36	33½	North	Ditto Much look ice
h	—	34	28.7	36½	33½	Easterly	Mod wind & cloudy, with snow sometime
O	—	31½	28.8	32	32½	E N E	Ditto, and foggy, with snow

* * This morning we discovered a prodigious large field of ice right ahead of us extending east and west further than could be seen from off the main top of all mountains, with many exceeding high, mountainous parts in it; but when we came nearer, we found its edge which before appeared upright, and of one solid piece, scarce higher than the water and composed of many small pieces close joined together with some pretty large ice islands amongst. I rather in it yet appeared high and mountainous but probably this also was a deception caused by the very great refractive power of the atmosphere, near the horizon in those frigid regions many instances of which I had occasion to mention in the account of my Voyage to, and residence in, Hudson's Bay. Let me add here once for all, that I have had abundant proofs of the effects of these extraordinary refractions on altitudes of the sun, &c taken from the horizon of the sea with Hadley's Quadrant this voyage. For, universally, I believe without a single exception, the east longitude shewn by the Watch &c in the morning, fell short of that deduced from it in the afternoon when both were reduced to the same time by the Log, and that sometimes by 10, 12, and even

1774		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.			
15 minutes of longitude: I mean when we were in high latitudes; for, between the tropics, I seldom knew them differ more than 3 minutes, and not often so much as that.								
D	Jan. 31.	33	28,9	34	32½	N. E.	Mod. wind, and foggy.	One ice island.
Δ	Feb. 1.	35	28,85	35		Ditto.	Ditto, and cloudy.	Several ice islands.
η	2.	35	28,75	37	33½	S. E.	Ditto.	One ice island.
η	3.	32½	28,9	35	34½	Ditto.	Little wind, and cloudy.	
♀	4.	34	29,0	34½	34½	N. E.	Ditto, and mostly cloudy.	
h	5.	37½	28,72	38½	38½	North.	Moderate wind, and cloudy, with snow.	
○	6.	36	28,72	39½		S. W.	Ditto, and cloudy: snow and hail.	
D	7.	37	28,65	40	38	Ditto.	Ditto, and cloudy.	Saw divers.
Δ	8.	39	29,62	41½		Ditto.	Brisk wind, and cloudy, with snow and rain.	
η	9.	46½	29,12	47		Ditto.	Brisk wind, with rain.	
η	10.	44	29,17	47	47	Ditto.	Strong wind, with clouds and rain.	
♀	11.	49	29,45	51	49½	Westerly.	Very strong wind, and cloudy.	The water sunk in Dr. Lind's Wind-gage ½ of an inch, during the squalls, which was the most I ever saw.
h	12.	47½	29,22	47½	49	Westerly.	Moderate wind, and fine weather.	
○	13.	49½	30,0	52	51½	Ditto.	Ditto, and flying clouds.	
D	14.	52	30,17	53	51½	Variable.	Ditto, and drizzling rain.	
Δ	15.	51	30,07	54		N. W. by W.	Ditto, and foggy, with drizzling rain.	
It may not be improper to remark, that in all our long trip to the southward this year, we never once saw the southern lights: indeed I do not recollect a single night that was clear enough.								
η	16.	55	30,0	56		N. W.	Brisk wind, and foggy, with rain.	
η	17.	53	29,92	55		Ditto.	Moderate wind, and cloudy.	
♀	18.	52	29,92	50½		S. W.	Strong wind in squalls, with rain.	
h	19.	55	30,37	58½	59	West.	Moderate wind, and cloudy.	
○	20.	61	30,42	66	66	Ditto.	Ditto, and fine weather.	
D	21.		30,42	67½		S. W.	Ditto.	
Δ	22.	68½	30,47	69		S. E.	Brisk wind, with showers.	
η	23.	64½	30,45	69	66½	North.	Moderate wind, and flying clouds.	
η	24.	71	30,27	71		N. W.	Ditto.	
♀	25.	70	29,95	69	68½	S. W.	Moderate wind, and cloudy, with rain.	
h	26.	65½	30,02	65	64½	South.	Brisk wind, and cloudy.	
○	27.	64½	30,2	68½	68	Easterly.	Moderate wind, and mostly cloudy.	
D	28.	66½	30,22	71½		Variable.	Ditto.	
Δ	March 1.		30,2	71½	73½	West.	Little wind, and fine weather.	
η	2.		30,17	74	74	N. W.	Ditto.	
η	3.	71	30,22	74	75	N. W.	Ditto.	
♀	4.	74	30,3	74½	76	Ditto.	Ditto.	
h	5.		30,3	75		Variable.	Ditto.	
○	6.		30,3	74	73½	East.	Mod. wind, with showers.	Saw many pieces of sponge.
D	7.		30,3	74½	74	Ditto.	Ditto, and flying clouds.	Sponge & sea-weed.
Δ	8.	73½	30,35	75½		Ditto.	Ditto.	Birds, sponge, sea-weed, &c.
η	9.	74½	30,37	77	76½	Ditto.	Ditto.	Sea-snakes, sponge, leaves, &c. birds.
η	10.	73½	30,32	76½	76	Ditto.	Ditto.	Many birds, sea-weed, &c.
♀	11.	75	30,3	75	75½	N. E.	Ditto.	Saw Easter Island.

1774	Morn		Noon		Even	Winds	Weather &c
	Therm	Bar	Therm	Therm	Therm		
March 12	75	30.27	75½	75½	75½	Variable	Little wind, and flying clouds
13	75½	30.4	74	74½	74½	S F	Moderate wind, and flying clouds
14	7½	30.27	74½	74½	74½	E S E	Ditto
15		30.37	73			Easterly	Little wind and very hot weather
16	71	30.22	75	76½	76½	N E	Ditto, and flying clouds
17	75½	30.3	77	76½	76½	Ditto	Moderate wind, and fine weather
18	75½	30.2	76½			Ditto	Ditto
19	74½	30.25	77	76½	76½	East	Ditto
20	75½	30.2	77			Ditto	Brisk wind and mostly cloudy
21	75½	30.25	77			Ditto	Moderate wind and flying clouds
22	74½	30.2	76½	75½	75½	Ditto	Ditto, with showers
23	75½	30.1	77½	75½	75½	N E	Ditto, with flying clouds
24	74	30.1	77	77	77	East	Ditto
25	76½	30.17	78	76½	76½	Ditto	Ditto
26	78	30.1	78½	78½	78½	Ditto	Ditto
27	78½	30.02	80	79	79	Ditto	Ditto
28	78½	30.05	80	80	80	Ditto	Ditto
29	79½	29.97	81	80½	80½	Ditto	Ditto
30	79	30.02	80½	80	80	Ditto	Ditto
31	80	30.0	80½	80½	80½	Ditto	Ditto
April 1	80½	29.97	81	81	81	Ditto	Ditto
2	79½	29.95	81½	81	81	Ditto	Ditto
3	80½	30.02	82	81½	81½	Ditto	Ditto
4	81½	30.0	82½	82½	82½	Ditto	Ditto
5	81½	30.0	83	82½	82½	Ditto	Ditto
6	81½	29.97	83½	82½	82½	Ditto	Ditto
7	77½	30.0	81½	81½	81½	East	Ditto, with showers
8	82	29.97	82½	82½	82½	Ditto	Ditto, with heavy showers
9	82	29.85	84½	84½	84½	Ditto	Brisk wind, in squalls, with showers
10	81	29.87	84½	84½	84½	Ditto	Strong gusts of wind, with showers
11	81½	29.85	85½	85½	85½	E. S E	Squally, with showers
12	84½	30.02	84½	81½	81½	S E	Ditto
13	79	29.97	82½	82½	82½	Ditto	Brisk wind, with showers.
14	81½	29.90	82½	83	83	East	Moderate wind and mostly cloudy
15	82½	30.02	83	82½	82½	Ditto	Brisk wind, and flying clouds
16	82	30.02	83½	83½	83½	Ditto	Brisk winds, and flying clouds
17	81½	30.0	83½			Ditto	Ditto
18	81½	30.07	82½			Ditto	Moderate wind, and flying clouds
19	81½	30.1	82½	82	82	Ditto	Ditto
20	79	30.07	81	79½	79½	Ditto	Ditto
21	81½	30.1	82½			Variable	Ditto, and cloudy, with rain
22		30.03	81½			Ditto	Ditto, and cloudy
23	88½	30.11	88½	82½	82½	Ditto	Ditto, and flying clouds
24	80	30.09	90			Ditto	
25		30.02	78			Ditto	
26	80½	30.03	84½	84½	84½	Ditto	
27	80	30.18	92	84	84	Ditto	
28		30.10	83			Ditto	Moderate wind, and flying clouds, with showers

1774.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.		
♀ April	29.	83 $\frac{1}{2}$	30,05	88 $\frac{1}{2}$	87	East.	Moderate wind, and fine weather.
♂	30.	81	30,02	88 $\frac{1}{2}$	86 $\frac{1}{2}$	Ditto.	Ditto.
○ May	1.	83 $\frac{1}{2}$	30,04	90 $\frac{1}{2}$	90 $\frac{1}{2}$	E. N. E.	Ditto.
♂	2.		30,11	89 $\frac{1}{2}$		S. W.	Squally, with heavy showers of rain.
♂	3.	82 $\frac{1}{2}$	30,03	90	85 $\frac{1}{2}$	Ditto.	Ditto.
♂	4.	81	30,03	93	86 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
♂	5.		30,02	94 $\frac{1}{2}$	72 $\frac{1}{2}$	East.	Ditto.
♀	6.	83	30,02	97	72 $\frac{1}{2}$	Ditto.	Ditto.
♂	7.	80	30,02	91 $\frac{1}{2}$	79 $\frac{1}{2}$	Ditto.	Ditto.
○	8.	81	30,09	93 $\frac{1}{2}$	93	Ditto.	Ditto.
♂	9.	82 $\frac{1}{2}$	30,03	91	84	Ditto.	Ditto.
♂	10.		30,03	84	77 $\frac{1}{2}$	Ditto.	Ditto.
♂	11.					Variable.	Rainy, unsettled weather.
♂	12.		30,09	80 $\frac{1}{2}$		N. E.	Ditto, with thunder and lightning.
♀	13.		30,12	81		East.	Moderate wind, and fine weather.
♂	14.		30,08	82 $\frac{1}{2}$		E. by N.	Ditto.
○	15.		30,15	84 $\frac{1}{2}$	83	S. E.	Ditto.
♂	16.	79 $\frac{1}{2}$	30,2	84 $\frac{1}{2}$	81	E. S. E.	Ditto.
♂	17.	79	30,15	83	83	E. by S.	Ditto.
♂	18.	79	30,12	82 $\frac{1}{2}$	81	East.	Little wind, and frequent showers.
♂	19.	77	30,07	80 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
♀	20.	79	30,09	82 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Ditto.
♂	21.	79	30,11	84	81 $\frac{1}{2}$	Ditto.	Ditto.
○	22.	79 $\frac{1}{2}$	30,12	83 $\frac{1}{2}$		Ditto.	Ditto.
♂	23.	78 $\frac{1}{2}$	30,05	83 $\frac{1}{2}$		Ditto.	Moderate wind, with showers.
♂	24.	79 $\frac{1}{2}$	29,92	83		Variable.	Ditto, and flying clouds.
♂	25.	79 $\frac{1}{2}$	29,92	78		S. E.	Ditto, and cloudy, with rain.
♂	26.	77 $\frac{1}{2}$	29,45	81 $\frac{1}{2}$		E. S. E.	Ditto.
♀	27.	75 $\frac{1}{2}$	30,08	79 $\frac{1}{2}$	80 $\frac{1}{2}$	East.	Brisk wind, and mostly cloudy.
♂	28.	76 $\frac{1}{2}$	30,11	80 $\frac{1}{2}$	80 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.
○	29.	75 $\frac{1}{2}$	30,03	81	81 $\frac{1}{2}$	Ditto.	Ditto.
♂	30.	75	30,02	78 $\frac{1}{2}$	82 $\frac{1}{2}$	Ditto.	Ditto.
♂	31.	79 $\frac{1}{2}$	29,98	80	81 $\frac{1}{2}$	Ditto.	Ditto.
♂ June	1.	77 $\frac{1}{2}$	29,98	81	81 $\frac{1}{2}$	Ditto.	Ditto.
♂	2.	77	29,96	79 $\frac{1}{2}$	81	Ditto.	Ditto.
♀	3.	77 $\frac{1}{2}$	29,95	79	81 $\frac{1}{2}$	Ditto.	Ditto.
♂	4.	81	30,0	81 $\frac{1}{2}$	81 $\frac{1}{2}$	Ditto.	Ditto.
○	5.	79 $\frac{1}{2}$	29,97	82 $\frac{1}{2}$	83	Ditto.	Ditto, and cloudy.
♂	6.	81 $\frac{1}{2}$	30,0	82 $\frac{1}{2}$		N. E.	Ditto.
♂	7.	79 $\frac{1}{2}$	29,85	81 $\frac{1}{2}$	80	Variable.	Ditto, with rain, thunder, and lightning.
♂	8.	78	29,97	80 $\frac{1}{2}$	82	N. E.	Little wind, and cloudy.
♂	9.	79	29,87	81	81	Variable.	Moderate wind, and mostly cloudy.
♀	10.	76	29,95	77 $\frac{1}{2}$	77 $\frac{1}{2}$	S. E.	Squally, with rain, and much lightning.
♂	11.	77	30,05	77 $\frac{1}{2}$	77	Ditto.	Moderate wind, and cloudy, with showers.
○	12.	74	30,1	75		Ditto.	Brisk wind, with drizzling rain.
♂	13.	75		80	77 $\frac{1}{2}$	Variable.	Moderate wind, and cloudy.
♂	14.	75 $\frac{1}{2}$	30,0	75 $\frac{1}{2}$	76 $\frac{1}{2}$	Ditto.	Little wind, and flying clouds.
♂	15.	75 $\frac{1}{2}$	30,1	75 $\frac{1}{2}$	75 $\frac{1}{2}$	South.	Ditto.

1774	Morn		Noon		Even		Winds	Weather &c
	Therm	Baron	Therm	Therm	Therm	Therm		
June 16	74½	30,1	75½	74½	74½	74½	South	Moderate wind, and fine weather
17	73½	30,12	75	73	73	73	S E	Ditto.
18	73½	30,12	76½				Ditto	Ditto.
19	74	30,05	77	75	75	75	East	Ditto.
20	75½	30,1	77½	76½	76½	76½	Ditto	Ditto.
21	76	30,05	78	79	79	79	Ditto.	Ditto.
22	76	30,07	77½	76	76	76	Ditto	Ditto.
23	76½	30,07	77½	76½	76½	76½	Ditto	Ditto.
24	76½	30,07	79	78½	78½	78½	N E	Ditto.
25	78	30,12	77½				Variable.	Little wind, and hazy
26	76	30,1	75	78	78	78	Ditto	Ditto, and fine weather
27	74½	30,12	74½	74½	74½	74½	Ditto	Ditto.
28				74½	74½	74½	Ditto	Ditto.
29	74½	30,05	74½	76½	76½	76½	West	Ditto.
30	74½	30,12	75½	72½	72½	72½	S E	Moderate wind, and cloudy weather
July 1	73	30,17	75	73½	73½	73½	Ditto	Ditto.
2	72	30,15	74	72½	72½	72½	Ditto	Ditto, and fine weather
3	71	30,15	74	72½	72½	72½	Ditto	Ditto.
4	74½	30,12	75½	76½	76½	76½	Ditto	Ditto, and cloudy
5	75	30,07	77	77	77	77	Ditto	Ditto.
6	74½	30,15	76½	76½	76½	76½	East	Ditto.
7	75	30,1	77	77½	77½	77½	Ditto	Ditto.
8	75½	30,1	78				North	Ditto.
9	77	29,9	78				South	Little wind, with heavy showers of rain
10	73½	29,92	74½	74	74	74	S E	Brisk wind, in squalls, with rain
11	73	29,9	74	75	75	75	Ditto	Brisk wind, and cloudy
12	74½	29,95	76	75½	75½	75½	Ditto	Ditto.
13	75½	29,97	76	76½	76½	76½	Ditto	Moderate wind, and fine weather
14	76	30,02	78	77½	77½	77½	East	Ditto.
15	76½	30,02	75½	78½	78½	78½	S E	Ditto.
16	78½	30,02	79½				Ditto	Brisk wind, in squalls, with rain
17	78	30,05	76½				Ditto	Heavy squalls of wind and rain
18	75½	30,05	76½	76½	76½	76½	Ditto	Strong wind, and showers
19	75	30,02	76½	76½	76½	76½	Ditto	Ditto.
20		30,12	75	74½	74½	74½	Ditto	Moderate wind, and cloudy
21	74½	30,02	77½	74	74	74	S E	Ditto, and flying clouds
22	74½	30,02	76½	76	76	76	Variable	Little wind and flying clouds
23	76	29,97	80	71½	71½	71½	N E.	Moderate wind, and cloudy weather
24	76	30,0	79½				Variable	Ditto.
25	77½	30,0	80½	79	79	79	Ditto	Little wind, and fine weather
26	78½	30,0	78½	81	81	81	S W	Ditto.
27	74	30,0	74½	74½	74½	74½	Ditto	Ditto.
28	70½	30,02	71½	75	75	75	Ditto	Ditto.
29	70½	30,02	74	72½	72½	72½	S E	Ditto.
30	70½	30,05	72½	76½	76½	76½	Ditto	Ditto.
31	73½	30,1	81	74½	74½	74½	Ditto	Ditto.
Aug 1	73	30,12	73½	76½	76½	76½	Variable	Ditto.
2	73½	30,1	78½	78	78	78	South.	Ditto.

1774.		Morn.		Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.	Therm.		
Aug.	3.	73	30,1	74	74 $\frac{1}{2}$		East.	Little wind, and fine weather.
	4.	70 $\frac{1}{2}$	30,02	78	77 $\frac{1}{2}$		West.	Ditto.
	5.	73 $\frac{1}{2}$	29,89	78			S. E.	Moderate wind, and mostly cloudy.
	6.	70 $\frac{1}{2}$	29,93	74 $\frac{1}{2}$			Ditto.	Moderate wind, and flying clouds.
	7.	71 $\frac{1}{2}$		78 $\frac{1}{2}$	78 $\frac{1}{2}$		Ditto.	Ditto.
	8.	68 $\frac{1}{2}$	30,14	73 $\frac{1}{2}$			Ditto.	Moderate wind, and mostly cloudy.
	9.	71 $\frac{1}{2}$	30,13	73 $\frac{1}{2}$			East.	Moderate wind, and cloudy weather.
	10.	70 $\frac{1}{2}$	30,17	74			N. E.	Ditto.
	11.	71	30,08	77	75 $\frac{1}{2}$		N. N. W.	Moderate wind, with showers.
	12.	72 $\frac{1}{2}$	30,08	83 $\frac{1}{2}$	80 $\frac{1}{2}$		E. S. E.	Moderate wind, and cloudy weather.
	13.	73 $\frac{1}{2}$	30,19	75			N. E.	Little wind, and close, cloudy weather.
	14.	72	30,11	76			N. N. W.	Moderate wind, and mostly cloudy.
	15.	75 $\frac{1}{2}$	30,08	80	81 $\frac{1}{2}$		Ditto.	Little wind, and cloudy.
	16.	76	29,97	79 $\frac{1}{2}$			E. N. E.	Little wind, and flying clouds.
	17.	78 $\frac{1}{2}$	30,12	79 $\frac{1}{2}$	79 $\frac{1}{2}$		East.	Ditto, and cloudy weather.
	18.	73	30,10	78			E. by N.	Moderate wind, and cloudy weather.
	19.	77	30,02	79 $\frac{1}{2}$	78		Westerly.	Little wind, with showers.
	20.	72 $\frac{1}{2}$	30,1	73			S. E.	Brisk wind, and cloudy.
	21.	70 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$	72		Ditto.	Moderate wind, and mostly cloudy.
	22.	70 $\frac{1}{2}$	30,17	75 $\frac{1}{2}$	74		East.	Ditto.
	23.	72 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$			S. E.	Brisk wind, and cloudy.
	24.	78 $\frac{1}{2}$	30,1	81	80 $\frac{1}{2}$		Ditto.	Moderate wind, and cloudy.
	25.	79 $\frac{1}{2}$	30,1	81 $\frac{1}{2}$	81		Ditto.	Ditto.
	26.	76 $\frac{1}{2}$	29,95	80 $\frac{1}{2}$			Ditto.	Little wind, and fine weather.
	27.	74 $\frac{1}{2}$	30,02		79 $\frac{1}{2}$		East.	Ditto.
	28.	78 $\frac{1}{2}$	30,0	78 $\frac{1}{2}$	82 $\frac{1}{2}$		Variable.	Ditto.
	29.	78	30,1	80			S. E.	Ditto.
	30.	76 $\frac{1}{2}$	30,1	79	78		Ditto.	Moderate wind, and fine weather.
	31.	76	30,1	77	79		Ditto.	Ditto.
Sept.	1.	74	30,12	75			East.	Ditto.
	2.	74 $\frac{1}{2}$	30,15	76 $\frac{1}{2}$	76		Ditto.	Moderate wind, and cloudy.
	3.	72	30,1	73 $\frac{1}{2}$	74		Ditto.	Moderate wind, and cloudy; rain at times.
	4.	73	30,15	74	74 $\frac{1}{2}$		S. E.	Little wind, and cloudy.
	5.		30,12	74	75 $\frac{1}{2}$		E. by N.	Ditto.
	6.	70 $\frac{1}{2}$					E. S. E.	Little wind, with flying clouds.
	7.	72 $\frac{1}{2}$	30,05	75			S. E.	Brisk wind, with flying clouds.
	8.	72 $\frac{1}{2}$	30,06	72 $\frac{1}{2}$			E. N. E.	Ditto.
	9.	74 $\frac{1}{2}$	30,11	74 $\frac{1}{2}$	71 $\frac{1}{2}$		Ditto.	{ Strong wind, and cloudy, with rain at times.
	10.	71	30,08	75	75		East.	
	11.	70 $\frac{1}{2}$	30,16	76 $\frac{1}{2}$	73		Ditto.	Brisk wind, and cloudy weather.
	12.	72 $\frac{1}{2}$	30,14	76 $\frac{1}{2}$	73 $\frac{1}{2}$		Ditto.	
	13.	72	30,1	77			Ditto.	Moderate wind, and fine weather.
	14.	74 $\frac{1}{2}$	30,07	76 $\frac{1}{2}$	79		Ditto.	Moderate wind, and cloudy weather.
	15.	74	29,92	80	83		N. E.	Little wind, and fine weather.
	16.	76	30,02	77 $\frac{1}{2}$	80 $\frac{1}{2}$		Variable.	Little wind, and hazy weather.
	17.	75	30,06	77 $\frac{1}{2}$	76 $\frac{1}{2}$		East.	Little wind, and fine weather.
	18.	75 $\frac{1}{2}$	30,15	79			Ditto.	Little wind, and cloudy; rain at times.
	19.	72	30,15	73 $\frac{1}{2}$			Ditto.	Ditto.

1774.	Morn Therm	Noon		Even Therm	Winds.	Weather &c
		Barom	Therm			
Sept 20	73	30,12	73 $\frac{1}{2}$	73	East	Moderate wind, and fine weather
21	71	30,15	73 $\frac{1}{2}$	73 $\frac{1}{2}$	Variable	Ditto
22	71 $\frac{1}{2}$	30,12	73 $\frac{1}{2}$	72 $\frac{1}{2}$	Ditto	Ditto
23	71	30,15	73	73 $\frac{1}{2}$	Ditto	Little wind, and fine weather
24	72	30,12	73	72	Ditto	Ditto
25	71 $\frac{1}{2}$	30,15	73 $\frac{1}{2}$	74 $\frac{1}{2}$	Ditto	Ditto
26	72	30,17	73 $\frac{1}{2}$	73 $\frac{3}{4}$	S E	Ditto
27	68 $\frac{1}{2}$	30,17	68 $\frac{1}{2}$	69	Ditto	Brisk wind, and fine weather
28	68 $\frac{1}{2}$	30,2	71	69 $\frac{1}{2}$	East	Ditto, and cloudy, with showers
29	70	30,17	74	74 $\frac{1}{2}$	Ditto	Moderate wind and fine weather
30	71	30,05	73	75 $\frac{1}{2}$	Variable	Little wind, and fine weather
Oct 1	68	29,85	70 $\frac{1}{2}$	69 $\frac{1}{2}$	South	Brisk wind, and fine weather
2	66	29,92	66 $\frac{1}{2}$	69 $\frac{1}{2}$	S W	Little wind, and fine weather
3	68	29,87	68 $\frac{1}{2}$	68 $\frac{1}{2}$	Ditto	Brisk wind in squalls, with showers
4	66	29,97	69 $\frac{1}{2}$	69	West	Squally weather, with fog and rain
5	64 $\frac{1}{2}$	29,95	64 $\frac{1}{2}$	65 $\frac{1}{2}$	S W	Brisk wind, and fine weather
6	62	30,22	65	68 $\frac{1}{2}$	Calm	Little wind, and cloudy weather
7	63	30,3	71		S E	Ditto
8	64 $\frac{1}{2}$	30,3	65 $\frac{1}{2}$	64 $\frac{1}{2}$	Ditto	Moderate wind, and fine weather
9	62 $\frac{1}{2}$	30,32	64 $\frac{1}{2}$	62 $\frac{1}{2}$	South	Ditto
10	61 $\frac{1}{2}$	30,25	63 $\frac{1}{2}$		S E	Ditto
11	65	30,2	66 $\frac{1}{2}$	64 $\frac{1}{2}$	East	Ditto
12	63 $\frac{1}{2}$	30,25	66 $\frac{1}{2}$	65	N E	Ditto
13	62	30,22	65 $\frac{1}{2}$	63	Ditto	Ditto
14	61 $\frac{1}{2}$	30,17	65 $\frac{1}{2}$	61 $\frac{1}{2}$	Ditto	Ditto
15	60	30,02	65 $\frac{1}{2}$		North	Brisk wind, and cloudy weather
16	59 $\frac{1}{2}$	29,82	63 $\frac{1}{2}$		Variable	Ditto, with lightning and rain
17	58	29,55	59	59 $\frac{1}{2}$	West	Strong wind, and cloudy, with showers
18		29,64	55 $\frac{1}{2}$		Ditto	Brisk wind, and cloudy
19		29,87	57		S W	Strong gusts of wind with rain, and cold weather
20		29,97	55		Ditto	Strong wind weather cold and rainy
21		29,19	58 $\frac{1}{2}$		Westerly	Moderate wind, and fine weather
22		29,74	61	61 $\frac{1}{2}$	S S E	Ditto
23	63 $\frac{1}{2}$	30,1	65	65 $\frac{1}{2}$	Ditto	Ditto
24	65	30,04	70	64	S W	Ditto, and cloudy weather
25	65 $\frac{1}{2}$	29,68	67 $\frac{1}{2}$		Variable	Moderate wind, and mostly cloudy
26	69 $\frac{1}{2}$	29,67	71	66 $\frac{1}{2}$	Westerly	Ditto, and cloudy
27	56	29,72	58 $\frac{1}{2}$		Ditto	Ditto
28	62 $\frac{1}{2}$	29,67	68	64	Southerly	Ditto, and mostly cloudy, with rain
29	55 $\frac{1}{2}$	29,42	58 $\frac{1}{2}$		S E.	Ditto, and cloudy
30	55	29,43	56 $\frac{1}{2}$		Ditto	Strong wind, and heavy rain
31	63	29,6	68	67	Variable	Moderate wind, and fine weather
Nov 1	63 $\frac{1}{2}$	29,7	66		S E	Strong wind, and fine weather
2	61	29,38	65 $\frac{1}{2}$	43	S S W	Brisk wind and fine weather
3	62	29,51	63	48	S W	Moderate wind, and fine weather
4	69	29,55	72 $\frac{1}{2}$	53	Ditto	Ditto
5	62 $\frac{1}{2}$	29,75	73 $\frac{1}{2}$	66	Variable	Brisk wind, and hazy weather
6	59 $\frac{1}{2}$	29,78	59 $\frac{1}{2}$		Ditto	Brisk wind, and drizzling rain

1774.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.		
Nov.	7.	56	29.5	58 $\frac{1}{2}$	58	Variable.	Strong wind, and heavy rain.
	8.	55 $\frac{1}{2}$	29.4	64		S. W.	Brisk wind, and cloudy weather.
	9.	60	29.35	62	62	Westerly.	Moderate wind, mostly cloudy, with rain.
	10.	58 $\frac{1}{2}$	29.6	64 $\frac{1}{2}$		Variable.	Ditto, and cloudy weather.
	11.	58	29.65	60	62 $\frac{1}{2}$	N. W.	Little wind, and cloudy.
	12.	58	29.6	61 $\frac{1}{2}$	64	Westerly.	Moderate wind, and ditto.
	13.	54 $\frac{1}{2}$	29.75	56		N. N. E.	Little wind, and foggy weather.
	14.	54	29.42	53 $\frac{1}{2}$		Westerly.	Brisk wind, and foggy, with rain.
	15.	49 $\frac{1}{2}$	29.42	51 $\frac{1}{2}$	52	Ditto.	Moderate wind, with rain.
	16.	47 $\frac{1}{2}$	29.45	50	52	East.	Brisk wind, and fine weather.
	17.	48 $\frac{1}{2}$	29.35	50 $\frac{1}{2}$	51	N. W.	Ditto, and cloudy, with rain.
	18.	47 $\frac{1}{2}$	29.45	50 $\frac{1}{2}$		North.	Ditto, and foggy.
	19.	48	29.5	49		Ditto.	Ditto.
	20.	45 $\frac{1}{2}$	29.7	46		N. E.	Moderate wind, and foggy.
	21.	44	28.85	43 $\frac{1}{2}$		N. W.	Strong wind, thick fog, and rain.
	22.	43 $\frac{1}{2}$	29.4	44 $\frac{1}{2}$		Southerly.	Moderate wind, and foggy.
	23.	43	29.45	44 $\frac{1}{2}$	48 $\frac{1}{2}$	West.	Little wind, and foggy weather.
	24.	42 $\frac{1}{2}$	29.85	46		N. W.	Brisk wind, and foggy weather: Penguins.
	25.	43	29.87	45 $\frac{1}{2}$	43 $\frac{1}{2}$	Ditto.	Ditto, and fine weather.
	26.	43	29.85	43 $\frac{1}{2}$		Ditto.	Ditto, and foggy: Many birds.
	27.	43 $\frac{1}{2}$	29.77	44 $\frac{1}{2}$	43 $\frac{1}{2}$	North.	Ditto, and cloudy.
	28.	43 $\frac{1}{2}$	29.62	43 $\frac{1}{2}$		N. W.	Strong wind, with rain and thick fog.
	29.	45 $\frac{1}{2}$	29.75	45 $\frac{1}{2}$		Ditto.	Moderate wind, and foggy: Sea-weed.
	30.	45	29.97	47 $\frac{1}{2}$		N. E.	Little wind, and thick fog.
Dec.	1.	45	29.57	45 $\frac{1}{2}$		S. E.	Moderate wind, and foggy, with rain.
	2.	44	29.47	45 $\frac{1}{2}$		Ditto.	Ditto.
	3.	43	29.27	45		Ditto.	Ditto.
	4.	40	29.15	41 $\frac{1}{2}$	41 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy.
	5.	41 $\frac{1}{2}$	29.37	43 $\frac{1}{2}$		Ditto.	Ditto, snow and rain.
	6.	39 $\frac{1}{2}$	29.35	43	43	West.	Ditto, snow and hail.
	7.	43	29.2	46 $\frac{1}{2}$	48	Ditto.	Moderate wind, and cloudy, with showers.
	8.	43 $\frac{1}{2}$	29.05	47		N. W.	Ditto.
	9.	43 $\frac{1}{2}$	28.92	47 $\frac{1}{2}$		Easterly.	Little wind, and foggy, with rain. Sea-weed.
	10.	44	28.82	46 $\frac{1}{2}$	44 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy: rain at times.
	11.	42 $\frac{1}{2}$	28.75	44	44 $\frac{1}{2}$	West.	Ditto, and cloudy.
	12.	43 $\frac{1}{2}$	28.77	44 $\frac{1}{2}$	46 $\frac{1}{2}$	Variable.	Ditto, and fine weather.
	13.	52	28.75	47	45 $\frac{1}{2}$	West.	Moderate wind, and cloudy.
	14.	44 $\frac{1}{2}$	28.9	46 $\frac{1}{2}$	45 $\frac{1}{2}$	Ditto.	Brisk wind, and fine weather.
	15.	44 $\frac{1}{2}$	29.05	46 $\frac{1}{2}$	45 $\frac{1}{2}$	Ditto.	Ditto, and squally, with rain.
	16.	44	29.17	46	46 $\frac{1}{2}$	Ditto.	Moderate wind, & fine weather, Penguins, sea-weed, & seals.
	17.	45	29.17	47	47	Ditto.	Squally, with showers. Made Cape Disceada.
	18.		29.4	47	50	N. W.	Brisk wind, and fine weather.
	19.	45 $\frac{1}{2}$	29.55	50 $\frac{1}{2}$	48	N. E.	Little wind, and fair weather.
	20.	47 $\frac{1}{2}$	29.62	54	53 $\frac{1}{2}$	East.	Ditto.
	21.	52	29.52	57		N. N. W.	Wind moderate, and fine weather, but cold.
	22.		29.68	58 $\frac{1}{2}$		East.	Little wind, and cloudy, with showers.
	23.	47 $\frac{1}{2}$	29.89	51 $\frac{1}{2}$	49 $\frac{1}{2}$	Variable.	Moderate wind, with showers, and cloudy.
	24.	46	29.82	50	49 $\frac{1}{2}$	Ditto.	Ditto, and mostly cloudy.

1774-		Morn		Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm			
O	Dec 25	47	29,31	53 $\frac{1}{2}$			Easterly	Moderate wind, with rain and sleet
D	— 26	47	29,57	49	49		Ditto	Ditto, and fine weather
S	— 27		29,55	51 $\frac{1}{2}$			Westerly	Ditto, and cloudy weather
W	— 28		29,7	50 $\frac{1}{2}$			S W	Ditto, and foggy, with rain
U	— 29	48	29,7	50 $\frac{1}{2}$	52 $\frac{1}{2}$		West	Brisk wind, and equally, with rain
F	— 30	54	29,65	56 $\frac{1}{2}$	54		N W	Ditto, and cloudy
b	— 31	50	29,35	52 $\frac{1}{2}$	51 $\frac{1}{2}$		W N W	Ditto, and cloudy, with showers
1775								
O	Jan 1	52	29,62	54			S W	Ditto
D	— 2	47	29,65	48 $\frac{1}{2}$	51 $\frac{1}{2}$		West	Brisk wind, and equally weather
S	— 3	49	29,62	52 $\frac{1}{2}$			Ditto	Moderate wind, with showers
W	— 4	47	29,62	51			Ditto	Brisk wind, and cloudy rain at time
U	— 5	43	29,6	47	45 $\frac{1}{2}$		Ditto	Ditto
F	— 6	43	29,52	41 $\frac{1}{2}$	43		Ditto	Moderate wind, and cloudy
b	— 7	40 $\frac{1}{2}$	29,72	40 $\frac{1}{2}$	43		Ditto	Brisk wind, and fine weather
O	— 8	44	29,5	49	50 $\frac{1}{2}$		North	Moderate wind, and ditto
D	— 9	43 $\frac{1}{2}$	29,35	43 $\frac{1}{2}$			N W	Brisk wind, and foggy Seal and let weed
S	— 10	43	29,15	45			West	Moderate wind, and foggy
W	— 11	42 $\frac{1}{2}$	29,2	47	45		S W	Ditto, and cloudy Porpoises and birds
U	— 12	40 $\frac{1}{2}$	29,2	42 $\frac{1}{2}$			Variable	Ditto Penguins, seals, and let weed
F	— 13	40	29,17	39	37		S E	Moderate wind, and foggy Several penguins
b	— 14	35	29,37	37 $\frac{1}{2}$	37 $\frac{1}{2}$		Variable	Ditto, and cold cloudy weather
O	— 15	34 $\frac{1}{2}$	28,7	35 $\frac{1}{2}$			S E	Brisk wind, with snow
D	— 16	34	29,25	39 $\frac{1}{2}$			S W	Moderate wind, with snow and sleet
S	— 17	35	29,45	39 $\frac{1}{2}$	39 $\frac{1}{2}$		Variable.	Ditto, and fine weather
W	— 18	37 $\frac{1}{2}$	29,6	43	41 $\frac{1}{2}$		S W	Ditto
U	— 19	37 $\frac{1}{2}$	30,02	45	42		Variable	Moderate wind, and cloudy
F	— 20	39	29,72	44	39		Ditto	Ditto,
b	— 21	38	29,5	39	40		South.	Little wind, and foggy I cannot help re
marking that all the time we were off, and in the neighbourhood of South Geor								
gia, whenever the Southern winds blew, the cold was much less severe than when								
they blew from the Northward								
O	— 22	33 $\frac{1}{2}$	29,92	39 $\frac{1}{2}$			N E	Little wind, and foggy weather
D	— 23	37 $\frac{1}{2}$	29,22	39			Ditto	Ditto, and thick fog
S	— 24	37	29,0	41			North	Ditto, and foggy Whales
W	— 25	39	29,12	40 $\frac{1}{2}$	39 $\frac{1}{2}$		Ditto	Brisk wind, and thick fog Whales
U	— 26	42 $\frac{1}{2}$	29,2	41 $\frac{1}{2}$			N W	Ditto, and foggy weather Whales & penguins
F	— 27	39	29,22	39	36		North.	Moderate wind and foggy Many whales & penguins
b	— 28	34 $\frac{1}{2}$	29,12	37	33 $\frac{1}{2}$		Ditto	Ditto, fog, rain, and sleet Whales pen
guins, petterals, and ice islands without number								
O	— 29	34 $\frac{1}{2}$	29,2	39			North	Little wind, and cloudy Still many
whales, penguins ice islands, and birds of various sorts								
D	— 30	34 $\frac{1}{2}$	29,25	35			N W	Brisk wind, and thick fog Much ice
S	— 31	34 $\frac{1}{2}$	29,15	37	39 $\frac{1}{2}$		West	Moderate wind, and thick fog Saw land
W	Feb 1	33 $\frac{1}{2}$	29,17	39	35		Variable	Little wind, and fine weather
U	— 2	34 $\frac{1}{2}$	29,2	36	37		Ditto	Ditto, and foggy Many penguins, &c
F	— 3	34 $\frac{1}{2}$	29,0	36			S E	Moderate wind, and foggy
b	— 4	34 $\frac{1}{2}$	28,87	38			Ditto.	Little wind, and ditto.

1775.	Moon.		Even.		Winds.	Weather, &c.
	Therm.	Barom.	Therm.	Therm.		
○ Feb. 5.	36 $\frac{1}{2}$	29,15	38 $\frac{1}{2}$	37	Westerly.	Moderate wind, and foggy. Six ice islands.
○ — 6.	36	29,17	38		N. and W.	Brisk wind, and cloudy. Snow at times. Ice.
♂ — 7.	34 $\frac{1}{2}$	29,0	37 $\frac{1}{2}$	35 $\frac{1}{2}$	S. W.	Strong wind, and cloudy. Several ice islands.
♀ — 8.	35 $\frac{1}{2}$	29,17	37 $\frac{1}{2}$		Ditto.	Moderate wind, and cloudy. Ice islands.
♂ — 9.	35 $\frac{1}{2}$	29,25	40	40	Variable.	Little wind, and cloudy, with snow. Ice.
♀ — 10.	33	29,32	34 $\frac{1}{2}$	34	S. W.	Brisk wind, and mostly cloudy. Ice.
♂ — 11.	33 $\frac{1}{2}$	29,52	36 $\frac{1}{2}$		Variable.	Little wind, and cloudy: snow at times. Ice.
○ — 12.	32 $\frac{1}{2}$	29,17	37 $\frac{1}{2}$	35 $\frac{1}{2}$	S. E.	Little wind, and mostly cloudy. Much ice.
○ — 13.		28,97	33		Ditto.	Moderate wind, and cloudy: snow at times.
♂ — 14.	29	28,92	32 $\frac{1}{2}$	37	S. W.	Brisk wind, and squally weather. Some ice.
Having completed 36° of Longitude, I here dropped the circle, and repeated a day.						
♂ — 14.	34 $\frac{1}{2}$	29,27	35 $\frac{1}{2}$	35 $\frac{1}{2}$	S. W.	Brisk wind, and cloudy: snow at times. Ice.
♀ — 15.	35 $\frac{1}{2}$	28,97	36 $\frac{1}{2}$		East.	Little wind, and cloudy: sometimes fleet.
♂ — 16.	33	28,87	33	33 $\frac{1}{2}$	Southerly.	Brisk wind, with fleet. Several ice islands.
♀ — 17.	33	29,57	36	36 $\frac{1}{2}$	N. and W.	Moderate wind, and fine weather. Some ditto.
♂ — 18.	33	29,47	34 $\frac{1}{2}$		North.	Brisk wind, and cloudy, with fleet. Several ditto.
○ — 19.		28,92	35 $\frac{1}{2}$		W. N. W.	Ditto, and foggy, with fleet.
○ — 20.	34 $\frac{1}{2}$	28,95	40		Variable.	Ditto, and cloudy. Little ice.
♂ — 21.	35	29,2	37	37	Westerly.	Moderate wind, and cloudy: snow at times.
♀ — 22.	34	29,42	36		Northerly.	Brisk wind, and cloudy: snow & fleet. Whales.
♂ — 23.	35 $\frac{1}{2}$	28,97	35 $\frac{1}{2}$		N. W.	Ditto: snow at times.
♀ — 24.	37	28,95	38 $\frac{1}{2}$		Ditto.	Strong wind, and squally weather. One ice isl.
♂ — 25.	37 $\frac{1}{2}$	29,72	41		Ditto.	Moderate wind, and mostly cloudy, with fog.
○ — 26.	39 $\frac{1}{2}$	29,97	45 $\frac{1}{2}$		Ditto.	Brisk wind, and foggy. Saw sea-weed.
○ — 27.	45	29,87	47		North.	Ditto, with rain. Penguins, &c.
♂ — 28.	48 $\frac{1}{2}$	29,90	49	43 $\frac{1}{2}$	Variable.	Moderate wind, and foggy: rain at times.
♀ March 1.	43 $\frac{1}{2}$	29,7	47		N. W.	Brisk wind, and foggy: ditto.
♂ — 2.	45 $\frac{1}{2}$	29,62	47	43	West.	Ditto, and foggy weather.
♀ — 3.	42	30,02	44	44	N. W.	Ditto, and cloudy.
♂ — 4.	51 $\frac{1}{2}$	29,92	55	57	North.	Ditto, and fine weather.
○ — 5.	53	29,5	50 $\frac{1}{2}$		N. W.	Ditto, and foggy weather.
○ — 6.	51 $\frac{1}{2}$	29,82	52 $\frac{1}{2}$	54	West.	Ditto, and cloudy.
♂ — 7.	57	29,95	61 $\frac{1}{2}$	60 $\frac{1}{2}$	N. W.	Ditto.
♀ — 8.	61 $\frac{1}{2}$	29,87	64		North.	Moderate wind, and cloudy.
♂ — 9.	62	29,57	63 $\frac{1}{2}$	56 $\frac{1}{2}$	West.	Moderate wind, and cloudy, with rain.
♀ — 10.	53 $\frac{1}{2}$	29,82	52 $\frac{1}{2}$	52 $\frac{1}{2}$	S. W.	Moderate wind, and cloudy.
♂ — 11.	51	30,02	51 $\frac{1}{2}$		West.	Little wind, and cloudy weather.
○ — 12.	59	30,12	62	63 $\frac{1}{2}$	Variable.	Moderate wind, and ditto.
○ — 13.	67	29,85	71	72 $\frac{1}{2}$	N. W.	Brisk wind, and squally, with showers.
♂ — 14.	70 $\frac{1}{2}$	29,65	72 $\frac{1}{2}$	70 $\frac{1}{2}$	Ditto.	Strong wind, and cloudy.
♀ — 15.	69	29,87	72 $\frac{1}{2}$	69	West.	Brisk wind, and cloudy weather.
♂ — 16.	66	30,2	69	68 $\frac{1}{2}$	Variable.	Little wind, and fine weather.
♀ — 17.	69	30,15	70	69 $\frac{1}{2}$	Westerly.	Moderate wind, and ditto.
♂ — 18.	38	30,05	70 $\frac{1}{2}$		S. W.	Ditto, and cloudy.
○ — 19.	65 $\frac{1}{2}$	30,2	65 $\frac{1}{2}$	65 $\frac{1}{2}$	S. E.	Brisk wind, and ditto.
○ — 20.	65	30,07	66 $\frac{1}{2}$		Ditto.	Variable weather.
♂ — 21.		30,08	75	76 $\frac{1}{2}$	Ditto.	Moderate wind, and fine weather.

1775	Morn		* Noon		E en	Winds	Weather &c
	Therm	Bar m	Therm	Therm			
March 22		30.03	77				
23							
24							
25			73				
26	66	29.92	69				
27	59	30.07	64	63 $\frac{1}{2}$			
28	57 $\frac{1}{2}$	30.28	65 $\frac{1}{2}$	65			
29	65 $\frac{1}{2}$	30.2	71	69 $\frac{1}{2}$			
30	68 $\frac{1}{2}$	30.15	73 $\frac{1}{2}$	73			
31	64 $\frac{1}{2}$	30.04	71	69 $\frac{1}{2}$			
April 1	66	30.05	71 $\frac{1}{2}$	70			
2	60	30.1	75	75			
3	66 $\frac{1}{2}$	30.08	73 $\frac{1}{2}$				
4	67 $\frac{1}{2}$	30.05	80				
5	73	30.0	78 $\frac{1}{2}$	80 $\frac{1}{2}$			
6	69 $\frac{1}{2}$	29.94	81	80 $\frac{1}{2}$			
7	72	29.98	75				
8		30.03	72				
9	71 $\frac{1}{2}$	30.01	75 $\frac{1}{2}$	71			
10	69 $\frac{1}{2}$	29.9	77	76			
11	66	29.86	68	65 $\frac{1}{2}$			
12	65	30.02	69	63 $\frac{1}{2}$			
13	63 $\frac{1}{2}$	30.02	68 $\frac{1}{2}$	67 $\frac{1}{2}$			
14	61 $\frac{1}{2}$	30.02	69 $\frac{1}{2}$	64			
15	61	30.01	68	67			
16	63 $\frac{1}{2}$	30.0	69 $\frac{1}{2}$	64			
17	61 $\frac{1}{2}$	29.95	65	61 $\frac{1}{2}$			
18	64 $\frac{1}{2}$	30.17	64 $\frac{1}{2}$	66			
19	66	30.18	70	70 $\frac{1}{2}$			
20	67	30.04	73 $\frac{1}{2}$	73 $\frac{1}{2}$			
21	63 $\frac{1}{2}$	29.94	68 $\frac{1}{2}$				
22	62	29.87	63 $\frac{1}{2}$				
23	59 $\frac{1}{2}$	29.84	64 $\frac{1}{2}$	65			
24		30.0	66				
25		30.15	66				
26							
27		30.34	62		N W		
28	63 $\frac{1}{2}$	30.32	68 $\frac{1}{2}$		S W by S		
29	64	30.07	66		South		
30	62	30.15	63 $\frac{1}{2}$		S S E		
May 1	63 $\frac{1}{2}$	30.2	66 $\frac{1}{2}$	65	Ditto		
2	64 $\frac{1}{2}$	30.05	66 $\frac{1}{2}$	66 $\frac{1}{2}$	S E. by E		
3	67	30.0	69	67 $\frac{1}{2}$	S E		
4	66 $\frac{1}{2}$	30.0	67 $\frac{1}{2}$	67	Ditto		
5	67	30.07	67		Variable.		
6	64 $\frac{1}{2}$	30.15	66	67	Calm.		
7	65 $\frac{1}{2}$	30.2	67 $\frac{1}{2}$	66	S S E		
8	65 $\frac{1}{2}$	30.22	68	66 $\frac{1}{2}$	Ditto		
							<p>All the former part of the time that we lay at the Cape of Good Hope, the weather was fine and clear, and the wind South easterly, but pretty early in April it began frequently to veer round to the North west, and towards the latter end was almost constantly there. Whenever this happened the air was thick and foggy, with rain and cold raw weather, but if the wind returned to the East, or South east, though for an hour or two only, the weather cleared up, and the fogs which, with the North west winds covered the hills down to the very skirts of the town, were dispersed, or, at least, hung only about the very tops of them.</p> <p>Cloudy, with showers, and brisk wind Moderate wind, and cloudy Brisk wind, and fine weather Ditto Moderate wind, and fine weather Ditto Ditto Ditto Ditto Little wind, and fine weather Drizzling rain at times, but fine weather Moderate wind, and cloudy rain at times Moderate wind, and cloudy Ditto and fine weather</p>

ON BOARD THE RESOLUTION.

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1775.		Morn.	Noon.		Even.	Winds.	Weather, &c.
		Therm.	Barom.	Therm.	Therm.		
♂	May 9.	67½	30,22	68½	68½	S. E. by S.	Moderate wind, and fine weather.
♀	10.	67½	30,17	69½		S. E.	Little wind, and cloudy.
♂	11.	68	30,15	70½	69½	East.	Little wind, and fine weather.
♀	12.	69½	30,22	72½	69	S. E.	Ditto.
♂	13.	70½	30,2	74	72½	S. E.	Ditto.
♀	14.	69½	30,15	72½	70½	S. E.	Ditto.
♂	15.	71	30,2	72	72½	S. S. E.	Moderate wind, and cloudy.
♀	16.	73½	30,12	75½	73	S. E.	Little wind, and cloudy, with showers.
♂	17.	71	30,17	73	73½	S. E.	Brisk wind, with drizzling rain.
♀	18.		30,2	72½		S. E.	Little wind, and cloudy weather.
♂	19.			76½		S. E.	Ditto.
♀	20.			76		Variable.	Little wind, with showers.
♂	21.					S. E.	Ditto.
♀	22.	70		70		S. E.	Moderate wind, with rain.
♂	23.	72½	30,15	74½		East.	Brisk wind, and cloudy, with showers.
♀	24.	72½	30,17	73		E. S. E.	Moderate wind, and cloudy.
♂	25.	72½	30,1	75	75	S. E. by E.	Brisk wind, and fine weather.
♀	26.	75	30,02	77½	77½	E. by S.	Moderate wind, and fine weather.
♂	27.	76½	30,02	79	79	S. E.	Ditto.
♀	28.	77½	30,07	78½	78½	S. E.	Brisk wind, and cloudy weather.
♂	29.	76	30,02	79		S. E.	Mod. wind, flying clouds, and fine weather.
♀	30.		30,07	80½		S. E.	Ditto.
♂	31.	75½	30,1	82	80½	E. S. E.	Moderate wind, and heavy showers.
♀	June 1.	77	30,15	79½	78	S. E.	Moderate wind, and fine weather.
♂	2.	77	30,12	78½	77	S. E.	Ditto.
♀	3.	75½	30,12	78	77	S. E.	Ditto.
♂	4.	77	30,07	79½	79½	S. E. by E.	Ditto.
♀	5.	78½	30,12	80	79	S. E. by E.	Ditto.
♂	6.	79½	30,12	81½	79½	S. E. by E.	Ditto.
♀	7.	79½	30,15	81	81	S. E. by E.	Brisk wind, and fine weather.
♂	8.	80	30,1	82½	80	E. S. E.	Ditto.
♀	9.	80½	30,02	82	81½	E. S. E.	Ditto.
♂	10.	80	30,05	82½	81	E. S. E.	Brisk wind, and cloudy.
♀	11.	79½	30,0	81	80	E. S. E.	Squally, with heavy showers.
♂	12.	80½	30,05	81½	81	E. by S.	Ditto.
♀	13.	80	30,07	81½		East.	Moderate wind, and showers.
♂	14.	77½	30,05	79½	79½	East.	Little wind, and showers.
♀	15.	77½	30,07	78½		S. E. by E.	Ditto, and heavy rain.
♂	16.	77	30,07	81½	80½	Variable.	Ditto, and cloudy.
♀	17.	76½	30,05	79	79½	S. E.	Ditto, and hot sultry weather.
♂	18.	76½	30,05	78	80½	Variable.	Ditto, and frequent showers.
♀	19.	79½	30,07	82	79½	N. E.	Ditto.
♂	20.	80	30,02	81	80½	N. E.	Little wind, and fine weather.
♀	21.	79½	30,05	83	81	N. E.	Brisk wind, and fine weather.
♂	22.	80	30,05	84½	80½	N. E.	Moderate wind, and fine weather.
♀	23.	78	30,02	80	80	N. E.	Ditto.
♂	24.	76½	30,1	78½	78	E. N. E.	Moderate wind, and cloudy.
♀	25.	76	30,1	82½	79	N. E. by E.	Brisk wind, and cloudy.

1775	Morn		Noon		Ev n	Winds	Weather &c
	Therm	Barom	Therm	Therm			
June 26	76	30,19	78½	78½	N E by E	Brisk wind, with showers	
27	75½	30,17	78	77	E N E	Moderate wind, and fine weather	
28	75	30,22	78	80	East	Brisk wind, and cloudy showers	
29	75½	30,27	78		E by N	Moderate wind, and cloudy	
30	76½	30,37	80½	80	Ditto	Brisk wind, and fine weather	
July 1	74½	30,45	76½	76	East	Moderate wind, and fine weather	
2	73½	30,37	75	75½	E S E.	Moderate wind, and cloudy	
3	74	30,4	74	75	Ditto	Ditto	
4	73½	30,45	75	74	East	Ditto	
5	73	30,5	75	76	Ditto	Little wind, and fine weather	
6	74½	30,52	76½	75	Calm	Fine weather	
7	74	30,5	77½	76½	E S E.	Little wind, and fine weather	
8	74	30,42	76½	79½	Variable	Ditto	
9	73½	30,35	76½	78½	S W	Ditto	
10	74	30,35	76½	76½	Ditto	Ditto	
11	76½	30,32	76	76	S S W	Brisk wind, and cloudy	
12	73	30,32	75½	75	Ditto	Ditto	
13	72	30,3	74½	74	S by W	Moderate wind, and flying clouds.	
14	71½				S W	Ditto	
15			76½		Ditto	Brisk wind, and cloudy	
16			76½		N W	Moderate wind, and cloudy	
17			76½		West	Ditto, and mostly cloudy	
18			77½		Westerly	Ditto, and fine weather	
19	7½	30,15	78	74	S W	Brisk wind, and cloudy, with rain.	
20	67½	30,17	75½	77½	N E	Moderate wind, and mostly cloudy	
21	69½	30,17	70½	74	N N E	Ditto, and fine weather	
22	66½	30,1	74½	73½	N W	Ditto	
23	66½	30,02	69½	72	Ditto	Brisk wind, and fine weather	
24	65½	29,95	69½	70	Ditto	Ditto, with showers	
25	63½	30,06	67	68	West	Moderate wind, and fine weather	
26	60½	29,77	64	63½	Ditto	Brisk wind, and squally	
27	62½	29,72	64½	69	Ditto	Moderate wind, and fine weather	
28	61½	29,75	64½	65	Ditto	Ditto	
29	61½	29,85	62½	64	N W	Brisk wind, and hazy weather	
30	60½				Westerly	Moderate wind, and fine weather	

In the preceding Journal, the civil day is to be understood; namely, from midnight to midnight. In my account of the weather, I have endeavoured to be as particular as possible, consistent with the plan I had prescribed to myself, of confining the remarks of one day to a line, except on some particular occasions, where the circumstances required, and, as I thought, merited a more ample description. And as many of the terms which I have made use of, though meant here to convey very different ideas, may be looked upon, and are really used by some persons, as synonymous; I shall here endeavour to give a short explanation of the sense I would wish them to be understood in. By the term *Fine Weather*, is to be understood such weather as was in general clear at least where few clouds were abroad if the word *Clear* occurs, it is to be understood that the air was at that time remarkably clear and serene. By

Flying Clouds, I express that weather where we had large clouds, obscuring a considerable part of the hemisphere; but which moved pretty quick, and did not continue long in a place. I have put *Mostly Cloudy* on those days, the greater part of which the heavens were overspread with settled clouds, but whereof some parts of the day were pretty clear. Those days are called *Cloudy* whereon the sun was but seldom, or perhaps never distinctly seen: the term also includes those days on which he was not seen at all. By the term *Showers*, I wish to express those days whereon we had alternately rain and fine weather; and by *Rain* at times, those on which the sky did not clear up between the showers, but remained settled cloudy weather. *Cloudy, with Rain*, denotes rain for the greater part of the day, at least; and also those days on which we had constant rain from the beginning to the end, of which we had some few. Those days are denominated *Hazy* on which the face of the heavens was overspread, as it sometimes is, with a thin grey cloud; or when the fine blue sky was in some measure obscured by a very thin mist. The terms *Foggy*, and *Thick Fog*, as well as the degrees of comparison which are annexed to the wind, will, I flatter myself, be sufficiently understood without farther explanation.

It may be necessary to add, that it always froze when my thermometer fell to 33° , and sometimes when it stood at $33^{\circ}\frac{1}{2}$; and, therefore, I conceive the freezing point, on that thermometer, should not be taken lower than the last-mentioned number.

A Z I M U T H S

O F T H E

S U N ' S C E N T E R ,

Taken with an A Z I M U T H C O M P A S S ;

T O G E T H E R W I T H

The Altitudes of his Lower Limb, taken at the same Time, with HADLEY'S Sextant,

F O R

Determining the Variation of the M A G N E T I C N E E D L E ,

On Board His M A J E S T Y ' s Sloop R E S O L U T I O N ,

In her late Voyage on D I S C O V E R I E S towards the S O U T H .



1772.	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s Center.	PROB. ON	Variation West.	Latitude North.	Longitude West.	Observers, and Remarks.
June 26.	9 38	N. 85 3 $\frac{1}{2}$ E.	3 20 12 $\frac{1}{2}$				Observed by Captain Cook. Dungeness bearing W. $\frac{1}{2}$ N. two or three leagues.
	11 21 $\frac{1}{2}$	N. 86 23 $\frac{1}{2}$ E.	3 19 22 $\frac{1}{2}$				
	13 9 $\frac{1}{2}$	N. 89 1 $\frac{1}{2}$ E.	2 19 47 $\frac{1}{2}$				
— 30.	1 53	N. 31 26 $\frac{1}{2}$ W.	2 23 14				Portland N. $\frac{1}{2}$ E. about 15 miles. Mr. Gilbert.
	Amplit.	N. 27 45 W.	1 24 20				
	11 8 $\frac{1}{2}$	N. 89 26 $\frac{1}{2}$ E.	3 22 10 $\frac{1}{2}$				
	12 2 $\frac{1}{2}$	N. 90 35 E.	3 22 13				The Start N. W. by N. $\frac{1}{2}$ W. distance about 6 or 7 leagues. Observed by Captain Cook.
July 1.	6 42	N. 36 40 W.	3 25 3 $\frac{1}{2}$				
	6 17 $\frac{1}{2}$	N. 36 33 $\frac{1}{2}$ W.	3 24 38				
— 21.	12 32	N. 49 56 W.	5 23 58		43 30	9 18	Mr. Gilbert.
	21 8 $\frac{1}{2}$	S. 77 49 E.	5 20 45		43 42	9 18	
— 22.	15 23 $\frac{1}{2}$	S. 81 16 $\frac{1}{2}$ E.	3		42 41 $\frac{1}{2}$	10 6	
	16 7	S. 80 26 $\frac{1}{2}$ E.	3		42 41 $\frac{1}{2}$	10 6	Mr. Gilbert.
— 23.	Azim.		22 45		41 44	10 42	Mr. Gilbert.
— 27.	Ditto.		20 23		33 27	15 37	Capt. Cook.
Aug. 3.	Ditto.		15 50		29 5	17 40	Mr. Gilbert.
— 4.	Ditto.		14 57		28 19	18 40	Observer unknown.
	Amplit.		15 0		28 19	18 40	Ditto.
— 6.	Azim.		13 11		24 41	19 20	Ditto.
— 7.	Ditto.		14 39		23 31	19 30	Ditto.
	Amplit.		14 40		23 31	19 30	Ditto.
— 9.	12 59 $\frac{1}{2}$	N. 65 50 W.	6 12 2		19 33	20 45	Ditto.
	5 20 $\frac{1}{2}$	N. 65 11 W.	6 10 44		15 45	23 18	
	Amplit.	N. 63 27 W.	1 10 59		15 44	23 20	
— 18.	Azim.		9 6		11 11	21 22	Observer unknown.
— 27.	6 6	N. 6 10 W.	1 13 28 $\frac{1}{2}$		4 2	11 36	
	16 47 $\frac{1}{2}$	S. 85 15 E.	7 13 33		3 49 $\frac{1}{2}$	10 40	
— 28.	10 39 $\frac{1}{2}$	N. 67 9 W.	5 13 59		3 38	10 6	
	9 20 $\frac{1}{2}$	N. 95 28 $\frac{1}{2}$ E.	8 14 13		3 18	9 23	
— 30.	15 22	N. 66 52 $\frac{1}{2}$ W.	2 14 57 $\frac{1}{2}$		2 34	7 3	
— 31.	18 22 $\frac{1}{2}$	S. 81 57 $\frac{1}{2}$ E.	7 15 52		2 12 $\frac{1}{2}$	5 41	
Sept. 3.	15 47 $\frac{1}{2}$	S. 82 46 E.	5 14 14 $\frac{1}{2}$		0 51	8 40	
— 4.	6 18 $\frac{1}{2}$	N. 68 0 W.	5 15 11 $\frac{1}{2}$		0 45	9 15	
	Amplit.	N. 68 30 W.	1 14 43		0 44	9 17	
— 7.	19 18 $\frac{1}{2}$	S. 81 37 E.	5 14 15		0 10 $\frac{1}{2}$	8 35	
— 10.	14 11 $\frac{1}{2}$	S. 82 43 $\frac{1}{2}$ E.	9 12 32		2 53	11 55	
— 11.	Azim.		11 44		8 18	12 21	Observer not known.
	Amplit.		11 40		8 18	12 21	
— 12.	Azim.		12 23		4 21	13 0	
	Ditto.		12 26		4 56 $\frac{1}{2}$	14 7	Ditto.
— 13.	Ditto.		9 53		5 24	14 32	Ditto.
— 16.	Ditto.		7 17		9 50	18 0	Ditto.
	Amplit.		7 53		9 50	18 0	
— 20.	Azim.		5 7		16 1	20 23	
	Amplit.		4 3		16 3	20 24	Ditto.
— 21.	12 20	N. 90 21 E.	5 3 49		18 26	21 15	

1772.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center	No of Obs	Vari- ation West	Latitude South	Longitude West	Observer and Remark
Sept 21	Amplit						
23	12 59 $\frac{1}{2}$	N 82 24 $\frac{1}{2}$ W	6	3 43 3 16	19 2 20 28	21 46 22 7	Observer not known
25	6 38 $\frac{1}{2}$	S 89 $\frac{1}{2}$ E	4	2 8	24 6	23 32	{ By a compass of 6 reedy a mile; which hung on friction wheels
26	9 59 $\frac{1}{2}$	S 90 35 $\frac{1}{2}$ E	7	2 19	24 6	23 32	
	10 25 $\frac{1}{2}$	S 95 $\frac{1}{2}$ W	5	2 1 $\frac{1}{2}$	24 25	23 51	By a Knight's compass
	9 7 $\frac{1}{2}$	S 94 17 W	5	1 53	24 25	23 51	Mr Pickersgill
	Amplit.	N 92 40 W	1	0 50	24 25	23 51	Mr Pickersgill
	16 23	S 94 32 E	5	0 39	24 40 $\frac{1}{2}$	23 51 $\frac{1}{2}$	
27	20 0 $\frac{1}{2}$	S 95 30 W	7	2 5	24 51 $\frac{1}{2}$	23 51	Mr Gilbert
	Amplit.	S 89 0 W	1	1 15	24 52	23 51	
	Ditto M		1	1 11	25 12	23 31	Ditto
28	8 50 $\frac{1}{2}$	S 88 50 E	5	2 36 $\frac{1}{2}$	26 46 $\frac{1}{2}$	20 36	
30	8 57 $\frac{1}{2}$	S 87 36 E	5	3 14 $\frac{1}{2}$	27 20	18 36	
Oct 1	5 38 $\frac{1}{2}$	N 87 0 W	3		27 28	17 59	
	6 56 $\frac{1}{2}$	S 84 1 $\frac{1}{2}$ E	9		27 31	17 34	
5	9 11 $\frac{1}{2}$	N 84 33 $\frac{1}{2}$ W	9	6 13	28 59 $\frac{1}{2}$	11 30	
10	15 0 $\frac{1}{2}$	N 79 39 $\frac{1}{2}$ W	7	8 30 $\frac{1}{2}$	34 30 $\frac{1}{2}$	8 8	
11	Azim		8	30	34 47 $\frac{1}{2}$	6 48	Observer not known
12	16 9 $\frac{1}{2}$	N 79 39 $\frac{1}{2}$ W	7	8 30 $\frac{1}{2}$	34 52 $\frac{1}{2}$	6 24	
17	15 54 $\frac{1}{2}$	N 76 30 $\frac{1}{2}$ W	7	14 9 $\frac{1}{2}$	35 0	4 40	Obs by the shadow of the thread By looking at the sun
19	22 45 $\frac{1}{2}$	N 71 49 W	5	15 9 $\frac{1}{2}$	34 24	7 40	
20	16 56 $\frac{1}{2}$	N 75 37 W	5	15 23	34 57	7 55 $\frac{1}{2}$	
	14 42 $\frac{1}{2}$	N 75 55 W	8	16 56 $\frac{1}{2}$	35 19	7 35	
21	14 4 $\frac{1}{2}$	S 71 34 $\frac{1}{2}$ E	6	14 59	35 52	7 36	Observer not known
26	11 54	N 79 8 W	7	15 56	34 25 $\frac{1}{2}$	14 50	
	Azim		10	57	33 40	15 10	Ditto.
	Ditto		21	26 $\frac{1}{2}$	33 41	15 38	
27	26 2 $\frac{1}{2}$	N 67 5 W	5	21 34	33 45 $\frac{1}{2}$	15 42	Mr Gilbert
28	18 5 $\frac{1}{2}$	N 73 14 $\frac{1}{2}$ W	7	21 30	40 19 $\frac{1}{2}$	16 27	
Nov 27	23 17 $\frac{1}{2}$	N 79 37 W	5	19 7	40 20	16 27	Mr Pickersgill
	20 14 $\frac{1}{2}$	N 81 15 W	5	19 55	46 42 $\frac{1}{2}$	18 10	
Dec 4	14 43 $\frac{1}{2}$	S 56 43 $\frac{1}{2}$ E	8	16 4 $\frac{1}{2}$	48 48	18 16	
	15 15 $\frac{1}{2}$	S 57 18 $\frac{1}{2}$ E	3	16 31 $\frac{1}{2}$	50 42	21 8	
6	19 55 $\frac{1}{2}$	N 83 57 $\frac{1}{2}$ W	7	17 51 $\frac{1}{2}$	55 8 $\frac{1}{2}$	23 44	
	15 51 $\frac{1}{2}$	N 87 39 $\frac{1}{2}$ W	7	18 38 $\frac{1}{2}$	55 8 $\frac{1}{2}$	24 17	
9	10 18 $\frac{1}{2}$	S 49 45 $\frac{1}{2}$ E	6	16 32	54 15	25 56	
	11 50 $\frac{1}{2}$	S 51 46 $\frac{1}{2}$ E	8	16 26	54 40 $\frac{1}{2}$	29 45	
16	34 55 $\frac{1}{2}$	S 76 49 E	5	22 9 $\frac{1}{2}$	56 17	31 58	Mr Clerke
17	5 2 $\frac{1}{2}$	S 76 23 W	10	21 9 $\frac{1}{2}$	58 32 $\frac{1}{2}$	26 24	
19	12 8 $\frac{1}{2}$	N 89 1 $\frac{1}{2}$ W	10	22 26 $\frac{1}{2}$	58 32 $\frac{1}{2}$	26 20	
21	16 1 $\frac{1}{2}$	N 86 1 $\frac{1}{2}$ W	8	21 47 $\frac{1}{2}$			
22	5 32 $\frac{1}{2}$	S 31 58 E	5	23 56			
26	17 58	N 85 42 W	5	19 37			
	13 9 $\frac{1}{2}$	S 86 4 W	5	19 14			

1773.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center.	Z. to ☉ Dist.	Vari- ation West.	Latitude South.	Longitude East.	Observers, and Remarks.
h Jan. 2.	19 42	N. 89 18 W.	5 12 16½		58 51	10 34	Mr. Gilbert.
	16 11	S. 84 45 W.	5 12 3		58 50½	10 33	
	15 14½	S. 84 42 W.	5 13 33		58 50½	10 33	Mr. Clerke.
	13 14	S. 79 52 W.	5 11 55½		58 50	10 32	Capt. Cook.
h — 7.	9 36	S. 32 41½ E.	3 28 19		61 9	31 42	
	13 35½	S. 39 8½ E.	4 28 53		61 10	31 47	
h — 8.	10 10½	S. 32 30 E.	6 29 42		61 30	34 40	
o — 10.	5 51½	S. 29 19½ E.	7 22 50½		62 44	37 25	Mr. Pickersgill.
	13 53½	S. 43 69½ E.	9 25 30½		62 47½	37 27	Mr. Cooper.
h — 11.	8 8½	S. 32 26 E.	5 23 47				Gregory's Compass.
	8 48½	S. 34 33 E.	5 23 12		64 11½	38 22	A Knight's ditto. } Capt.
	9 55½	S. 36 53 E.	7 23 33				Gregory's ditto. } Cook.
	10 43½	S. 37 30 E.	5 24 44				Another Knight's.
h — 14.	19 51	N. 69 30 W.	3 28 0				Gregory's Compass.
	19 11	N. 70 0 W.	5 28 10		63 53	39 20	A Knight's ditto. } Capt.
	18 16	N. 72 22 W.	4 28 22				Another Knight's } Cook.
h — 16.	20 51½	N. 68 49 W.	5 27 9		64 55		Capt. Cook.
	18 10½	N. 72 49½ W.	6 27 12		64 55½	39 10	
h — 21.	20 15½	N. 62 31½ W.	7 31 13				Mr. Gilbert.
	19 23½	N. 64 4 W.	5 31 23		62 48½	42 6	
	18 39	N. 64 27 W.	5 32 23				Mr. Clerke.
h — 22.	24 8	S. 60 19½ E.	10 33 1½		60 27	45 12	Capt. Cook.
o — 24.	8 48½	N. 76 13½ W.	3 35 30		57 50½		Mr. Gilbert.
	4 39½	N. 84 39½ W.	5 34 14½		57 48	49 52	Mr. Pickersgill.
h — 27.	17 2½	N. 65 56 W.	10 31 24½		56 6½		Capt. Cook. Greg. Comp.
	14 57½	N. 69 0½ W.	11 31 22½		56 6½	51 35	Mr. Clerke. Ditto.
	10 4½	N. 74 7½ W.	4 33 31½		56 6½		Mr. Gilbert. A Knight's dit.
h — 28.	8 0	N. 76 0 W.	1 33 4		53 49	52 31	
o — 31.	Amplit.	N. 86 37½ W.	1 30 49		50 13	57 30	
o Feb. 2	18 44½	N. 65 55½ W.	7 27 52½				Capt. Cook.
	15 35½	N. 69 33½ W.	7 27 48				Ditto.
	14 35½	N. 71 29 W.	5 27 2		49 7	60 24	Mr. Clerke.
	12 53½	N. 72 57½ W.	2 27 27½				
	12 27½	S. 46 39½ E.	6 32 40		48 48	61 20	
	13 42	S. 48 24½ E.	6 32 20				Mr. Pickersgill.
h — 4.	14 10	N. 70 12½ W.	9 27 54½		49 37½	59 25	
	5 13	N. 75 25½ W.	7 33 8½		49 37½	59 22	
h — 5.	12 43½	N. 68 37½ W.	9 30 37½		48 34	59 6	Capt. Cook.
	11 34	N. 69 16½ W.	4 31 16½				
h — 6.	3 8½	N. 77 12½ W.	11 32 24½		48 8½	60 25	Capt. Cook.
o — 7.	6 55½	N. 73 51½ W.	8 31 8		49 8½	63 8	
h — 9.	18 18½	S. 62 2 E.	9 27 33		49 50	65 10	Capt. Cook.
h — 12.	12 40½	N. 62 53½ W.	8 32 33		53 6½	71 25	Mr. Gilbert.
	12 39½	S. 50 17½ E.	7 34 45½				Mr. Cooper.
	13 32	S. 52 51½ E.	7 33 10½		53 32	72 57	Mr. Gilbert.
o — 14.	20 0½	N. 46 33½ W.	7 36 12		55 40½	74 50	Capt. Cook.

1773	Altitude of the ☉ L L.	Magnetic Azimuth of the ☉ Center	Z or C	Variation West	Latitude South	Longitude East	Observers, and Remarks
Feb 15	18 27 $\frac{1}{2}$	N 45 0 W	6 39 11		57 4	80 9	
	12 19	N 56 49 $\frac{1}{2}$ W	8 36 53 $\frac{1}{2}$		57 6	80 12	Mr Gilbert
	11 28	N 56 4 $\frac{1}{2}$ W	6 38 22		57 6	80 12	Mr Pickersgill
— 17	4 39	S 33 50 E	41 45		57 54	83 6	Ditto
	33 14 $\frac{1}{2}$	S 87 23 E	11 39 35		57 54 $\frac{1}{2}$	83 40	Capt Cook
— 18	17 57 $\frac{1}{2}$	N 44 45 W	5 37 44		58 2 $\frac{1}{2}$	84 42	Mr Pickersgill
	16 59	N 45 20 W	6 38 45		58 2 $\frac{1}{2}$	84 42	
	14 32 $\frac{1}{2}$	N 48 6 W	5 39 58		58 2 $\frac{1}{2}$	84 42	
	4 57 $\frac{1}{2}$	N 62 26 $\frac{1}{2}$ W	37 8 $\frac{1}{2}$		58 5	84 48	Capt Cook
— 19	8 27 $\frac{1}{2}$	S 42 15 E	5 40 53		58 49	91 2	Mr Clerke
	10 24 $\frac{1}{2}$	S 43 32 E	5 42 49 $\frac{1}{2}$		58 49	91 2	
— 20	11 26 $\frac{1}{2}$	N 51 20 $\frac{1}{2}$ W	9 40 13		58 46 $\frac{1}{2}$	91 58	Capt Cook
	9 8 $\frac{1}{2}$	N 54 33 W	5 40 49		58 46	91 59	Mr Clerke
	13 42	S 57 18 $\frac{1}{2}$ E	6 35 17		58 55 $\frac{1}{2}$	92 45	Mr Pickersgill
	14 33 $\frac{1}{2}$	S 58 6 E	5 35 56 $\frac{1}{2}$		58 55 $\frac{1}{2}$	92 45	Mr Gilbert
— 21	21 9 $\frac{1}{2}$	S 65 57 $\frac{1}{2}$ E	4 40 58 $\frac{1}{2}$		59 19	93 55	
— 25	12 26 $\frac{1}{2}$	N 43 14 $\frac{1}{2}$ W	7 42 29 $\frac{1}{2}$		60 49 $\frac{1}{2}$	96 10	Capt Cook
	11 8	N 44 16 W	7 43 45		60 49 $\frac{1}{2}$	96 10	
	7 41 $\frac{1}{2}$	S 44 56 E	10 41 23		60 58	97 26	Mr Burr
	8 46 $\frac{1}{2}$	S 47 36 E	6 40 31		60 58	97 26	Mr Gilbert
	9 35 $\frac{1}{2}$	S 48 19 E	5 41 17 $\frac{1}{2}$		60 12 $\frac{1}{2}$	110 52	Ditto
March 3	22 27	N 22 21 $\frac{1}{2}$ W	7 39 15 $\frac{1}{2}$		59 56 $\frac{1}{2}$	119 7	Mr Gilbert
— 6	15 11 $\frac{1}{2}$	N 41 47 $\frac{1}{2}$ W	7 32 11		59 44	121 18	
— 7	10 6 $\frac{1}{2}$	S 69 25 $\frac{1}{2}$ E	7 38 32		59 44	121 18	
— 8	13 33 $\frac{1}{2}$	S 73 1 $\frac{1}{2}$ E	4 31 47		59 44	121 20	Gregory's Compass } Capt
— 10	11 17 $\frac{1}{2}$	N 53 25 W	8 26 12		59 44	121 20	Knight's ditto } Cook
	9 54 $\frac{1}{2}$	N 53 40 W	5 28 25		57 52 $\frac{1}{2}$	130 2	Mr Pickersgill
	10 29 $\frac{1}{2}$	S 88 26 $\frac{1}{2}$ E	8 11 39 $\frac{1}{2}$		57 52 $\frac{1}{2}$	130 2	
	12 16 $\frac{1}{2}$	S 89 37 $\frac{1}{2}$ E	4 13 38 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Greg Comp Ship's head N
— 11	14 12 $\frac{1}{2}$	S 92 52 E	5 13 29		58 55 $\frac{1}{2}$	131 38	Knight's ditto Ship's head S
	10 45	N 86 32 $\frac{1}{2}$ E	7 8 24		58 55 $\frac{1}{2}$	131 38	Gregory ditto Ship's head South
	14 16	N 83 36 $\frac{1}{2}$ E	3 11 46		58 55 $\frac{1}{2}$	131 38	Ditto Ship's head northerly
	14 58 $\frac{1}{2}$	N 82 30 $\frac{1}{2}$ E	7 11 57 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Ditto Ship's head northerly
	17 40	N 71 40 E	2 6 18 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Knight's ditto Ship's head South
— 13	19 26 $\frac{1}{2}$	N 70 50 E	3 9 4 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Ship's head S S E
	13 59	N 63 50 W	3 7 37		58 55 $\frac{1}{2}$	131 38	Ship's head N E
— 15	13 19	N 62 6 $\frac{1}{2}$ W	3 10 35		58 55 $\frac{1}{2}$	131 38	
	27 42 $\frac{1}{2}$	N 36 38 $\frac{1}{2}$ E	4 0 55 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	
	28 18 $\frac{1}{2}$	N 36 0 E	6 2 29 $\frac{1}{2}$		58 55 $\frac{1}{2}$	131 38	Capt Cook
— 16	11 40 $\frac{1}{2}$	N 72 30 W	4 0 27		58 53	143 55	Capt Cook
— 18	14 34	N 81 46 $\frac{1}{2}$ W	9 14 12		56 7 $\frac{1}{2}$	150 10	Ditto
	10 7	S 91 0 W	3 13 4 $\frac{1}{2}$		56 5	150 10	Mr Gilbert
	9 34 $\frac{1}{2}$	S 85 53 $\frac{1}{2}$ W	4 17 19		56 3 $\frac{1}{2}$	150 10	Capt Cook
	8 17	S 86 50 W	1 14 21 $\frac{1}{2}$		56 3	150 10	Ditto
— 20	14 29 $\frac{1}{2}$	N 83 33 $\frac{1}{2}$ W	5 13 41		52 48	154 56	Mr Gilbert

1773.	Altitude of the ☉ & ☾.	Magnetic Azimuth of the ☉'s center.	No. of Obs.	Vari- ation Ref.	Latitude South.	Longitude Ref.	Observers and Remarks.
March 20.	13 24.10	N. 84 14 W.	5	12 43	52 47.1	154 56	Mr. Pickersgill. Mr. Gilbert. Ditto.
— 22.	12 20.1	N. 87 56 W.	5	14 52	52 47		
— 22.	16 58.1	N. 81 31 W.	3	13 32			
— 22.	14 19.6	N. 85 45.1 W.	3	14 37	49 28.1	159 38	
— 22.	12 35.1	N. 87 56.1 W.	4	14 31			
— 23.	11 10.1	N. 88 29 W.	5	13 14			Mr. Clerke. Mr. Gilbert.
— 23.	15 10.1	N. 83 31 W.	3	12 19.1	47 29	161 54	
— 24.	12 49	N. 87 32.1 W.	6	13 54	47 28		Mr. Gilbert.
— 24.	18 53.1	N. 78 18.1 W.	4	12 7	46 28.1	163 55	
— 24.	17 58.1	N. 78 48 W.	5	11 26	46 23.1		
June 14.	12 21.1	N. 22 36.1 E.	3	11 43	46 41.1	185 50	
— 15.	8 45.1	N. 52 27.1 W.	7	11 16	46 52.1	186 4	
— 22.	9 44.1	N. 51 25 W.	6	9 31	44 37.1	196 30	Ship's head East.
— 23.	8 34.1	N. 55 35 W.	7	11 21	44 37.1	197 53	Ditto, South.
— 28.	4 71	N. 45 50 E.	1		42 37.1	198 39	
— 29.	12 51.1	N. 32 18.1 E.	3	7 54.1	42 39.1	198 42.1	
— 29.	3 46.1	N. 45 19 E.	5	7 40	43 5	199 40	
— 29.	11 14	N. 33 41 E.	5	8 45	43 5.1	199 45	
July 1.	11 51.1	N. 48 25 W.	5	6 55	43 7.1	201 58.1	
— 2.	6 25	N. 40 44.1 E.	6	6 59.1	43 2.1	203 8	
— 2.	7 57	N. 55 45 W.	6	5 59	43 2.1	203 20	
— 3.	10 33.1	N. 36 28 E.	5	7 10.1	43 14	204 23	
— 3.	8 27.1	N. 54 58 W.	5	8 13	43 22.1	204 58	
— 9.	8 47.1	N. 44 27.1 E.	9	2 47.1	43 27.1	215 20	
— 10.	15 41.1	N. 31 43.1 E.	7	4 5	43 33.1	217 50	
— 11.	11 41.1	N. 48 44 W.	5	5 35.1	43 32.1	218 30	
— 12.	12 41	N. 36 30.1 E.	7	5 35	43 17.1	219 26	
— 12.	8 14	N. 53 59.1 W.	6	5 4	43 14.1	219 57	
— 17.	8 4.1	N. 48 40 E.	7	6 16	38 4.1	226 32	
— 18.	11 17.1	N. 56 43.1 W.	7	5 5	37 49	226 46	
— 19.	9 36.1	N. 65 22.1 W.	7	5 33.1	36 25.1	227 5	
— 19.	14 53.1	N. 43 54 E.	5	6 5.1	35 35	226 57	
— 21.	15 23.1	N. 48 56.1 E.	3	4 51.1	31 18.1	225 40	
— 22.	12 55.1	N. 61 50 W.	6	5 21.1	30 47.1	225 31	
— 22.	8 40.1	N. 55 11.1 W.	7	5 34	29 34	225 6	
— 26.	10 17.1	N. 66 20 W.	5	5 24.1	28 43	224 41	
— 27.	10 43.1	N. 56 7 E.	5	4 59.1	28 1	224 55	
— 27.	11 12.1	N. 55 0 E.	4	6 18.1	27 43	224 41	
Aug. 1.	11 15.1	N. 59 22 E.	7	5 16.1	23 25	226 3	
— 2.	8 43.1	N. 62 18 E.	5	4 26	22 22	226 15	
— 3.	12 7.1	N. 70 12 W.	5	5 1.1	22 0	226 10	
— 4.	13 46.1	N. 70 6 W.	5	5 10	21 12	226 30	
— 10.	13 53.1	N. 62 5.1 E.	3	6 30	17 17.1	218 15	
— 12.	16 6.1	N. 61 35.1 E.	7	6 45	17 16.1	215 24	
— 14.	10 57	N. 63 41 E.	5	7 24	17 42.1	211 50	Mr. Gilbert.
— 24.	9 17.1	N. 69 27 E.	5	5 54.1	17 29	210 40	

1773	Altitude of the ☉ & L L	Magnetic Azimuth of the ☉ & center	Z or 90°	Vari- ation East	Latitude South	Longitude East	Observers and Remarks	
O Sept 5	8 38½	N 85 2	W	5 4 51½	16 44½	208 52½	Knight's compass Gregory's ditto	
h — 18	6 33½	N 85 40	W	3 4 50	16 44½	208 52½		
O — 19	7 54½	N 77 30	E	5 8 26½	17 34	206 10	Mr Gilbert.	
h — 21	14 4	S 87 36	W	5 8 36½	17 47	205 20	Ditto.	
h — 21	12 11½	S 87 15	W	5 8 18				
h — 21	19 16½	S 88 12	W	5 9 18	18 28½	203 47	Mr Gilbert	
h — 21	8 34½	S 84 33	W	5 9 6½	18 29½			
h — 21	15 17½	N 75 39	E	5 8 34½	18 36	203 15	Mr Gilbert.	
h — 21	17 5	N 75 36	E	5 7 58	18 36½			
O — 26	12 14	N 75 17	E	5 11 42	20 36	194 36	Mr Gilbert.	
h — 27	17 45½	N 74 23	E	5 9 44	20 58½	192 5		
h — 29	4 6½	S 78 11	W	5 10 42½	21 26½	189 38	Mr Gilbert.	
Time by Watch K								
H —								
O Oct 3	7 5 16	N 76 32½	E	7 10 28	21 4½	185 3½	Mr Pickersgill.	
h — 7	14 27½	S 78 50	W	5 10 44	21 10	185 2		
h — 8	19 35½	N 76 47½	E	7 11 35	21 56	184 45		
h — 13	13 47½	S 79 27	W	5 9 50½	22 6½	184 40		
h — 13	16 20½	N 78 56½	E	8 10 39	28 27	180 13		
h — 14	17 29½	N 79 7	E	5 10 39				
h — 14	10 24½	N 82 31	E	5 11 34½	29 47	179 56		
h — 15	12 39½	S 76 33½	W	7 10 52	30 36	179 57		
h — 15	11 27½	N 82 56½	E	6 10 26½	31 16½	179 56		
h — 15	12 36½	N 81 12	E	5 11 28				
h — 16	17 4½	S 79 18½	W	6 10 43½	32 0½	179 55	Mr Clerke.	
h — 16	15 29½	S 77 13	W	5 11 48½				
O — 17	6 30½	S 71 31½	W	6 10 33	32 52½	179 56	Mr Gilbert.	
h — 17	12 51½	N 82 0	E	6 11 0	33 24	180 12		
h — 20	14 14½	N 76 59½	E	6 15 12	38 54½	179 12	Mr Gilbert.	
h Nov 27	13 34½	S 59 37½	W	5 13 57½	44 3	176 5		
h — 27	11 32	S 59 48	W	5 11 51		Capt Cook. Ditto		
O — 28	15 15½	S 61 0	W	5 13 56	44 28		176 45	
h Dec 4	11 39½	S 86 58	E	6 17 51½	50 4½	179 59	Mr Pickersgill	
O — 5	21 47½	S 62 35	W	6 18 16½	50 18½	179 44		
h — 7	23 20½	S 66 36	W	5 19 27	53 45	180 43	Mr Gilbert	
h — 7	22 0	S 67 12½	W	6 15 19	53 46			
h — 11	28 2½	S 78 0½	W	10 15 4½	61 13½	187 45	Mr Pickersgill	
O — 12	12 34½	S 46 39	W	5 16 49½	63 10½	190 55		
h — 12	12 1½	S 44 49½	W	6 27 30	64 26	209 13	Log Book	
h — 18	23 54½	S 73 38½	W	10 12 8	64 53½	211 45		
O — 19	24 37½	S 69 21	W	10 18 46	67 4	223 20	Gregory's compass. Knight's ditto	
h — 24	23 10½	S 69 13	W	10 25 32				

Uncertain because
of ship's motion.

1773.	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s center.	N. o. of Ob. l.	Vari- ation East.	Latitude South.	Longitude East.	Observers and Remarks.
Dec. 26.	22 41 $\frac{1}{2}$	S. 67 53 $\frac{1}{2}$ W.	6	15 40	66 5	226 30	Gregory's compass.
	22 7 $\frac{1}{2}$	S. 66 15 $\frac{1}{2}$ W.	6	15 40	66 5	226 30	Knight's ditto.
29.	21 23 $\frac{1}{2}$	S. 66 17 W.	10	14 29	62 8	225 38	Ditto.
30.	19 45 $\frac{1}{2}$	S. 64 16 $\frac{1}{2}$ W.	10	13 43 $\frac{1}{2}$	61 7	225 22	Ditto: cloudy.
31.	19 27 $\frac{1}{2}$	S. 71 23 $\frac{1}{2}$ W.	10		59 38		Ship's head E. } Knight's
	8 33 $\frac{1}{2}$	S. 46 19 $\frac{1}{2}$ W.	10	12 2 $\frac{1}{2}$	59 36 $\frac{1}{2}$	225 14	Ditto, N. W. } compass.
1774-							
Jan. 1.	15 41 $\frac{1}{2}$	S. 57 30 $\frac{1}{2}$ W.	10	14 4	58 47	224 3	Ship's head, N. W. K's comp.
	15 21 $\frac{1}{2}$	S. 84 26 E.	10	13 27	58 4	223 22	Knight's compass.
6.	18 14 $\frac{1}{2}$	S. 69 35 W.	4	7 7 $\frac{1}{2}$	51 40	225 6	Cloudy, and much motion.
7.	13 28 $\frac{1}{2}$	S. 64 39 $\frac{1}{2}$ W.	8	6 32	50 17	227 20	
	12 59 $\frac{1}{2}$	S. 77 18 E.	5	6 26	49 37	229 50	Mr. Clerke.
11.	13 41 $\frac{1}{2}$	S. 69 54 $\frac{1}{2}$ W.	9	2 41	48 21 $\frac{1}{2}$	238 30	} Knight's compass.
	28 36 $\frac{1}{2}$	S. 91 0 E.	10	1 35	49 11 $\frac{1}{2}$	239 53	
12.	15 12 $\frac{1}{2}$	S. 69 48 $\frac{1}{2}$ W.	8	4 37 $\frac{1}{2}$	50 7	240 35	Gregory's ditto.
	13 5 $\frac{1}{2}$	S. 67 3 $\frac{1}{2}$ W.	6	4 54 $\frac{1}{2}$			Knight's ditto.
16.	12 13 $\frac{1}{2}$	S. 61 2 $\frac{1}{2}$ W.	6	9 23 $\frac{1}{2}$	56 57	240 47	Gregory's ditto.
	10 53 $\frac{1}{2}$	S. 59 30 W.	8	8 49			Knight's ditto.
19.	18 38 $\frac{1}{2}$	S. 92 32 $\frac{1}{2}$ E.	6	10 26 $\frac{1}{2}$	62 28	244 0	Gregory's ditto.
22.	23 16 $\frac{1}{2}$	S. 82 1 $\frac{1}{2}$ W.	10	9 48	62 4 $\frac{1}{2}$	248 1	
24.	34 40 $\frac{1}{2}$	N. 40 31 $\frac{1}{2}$ E.	8	15 48 $\frac{1}{2}$	65 15 $\frac{1}{2}$	250 55	Ship's head, S. S. E. }
	35 33 $\frac{1}{2}$	N. 28 5 $\frac{1}{2}$ E.	8	25 27 $\frac{1}{2}$	65 16		Ditto, S. W. by W. }
	36 26 $\frac{1}{2}$	N. 31 0 E.	4	19 38	65 16		Ditto, S. S. E. }
25.	14 12 $\frac{1}{2}$	S. 56 7 $\frac{1}{2}$ W.	6	19 26 $\frac{1}{2}$	65 45	250 45	Capt. Cook.
	21 33 $\frac{1}{2}$	N. 69 11 $\frac{1}{2}$ E.	8	18 22	66 19	250 40	Ditto.
28.	9 44 $\frac{1}{2}$	S. 87 23 $\frac{1}{2}$ E.	7	23 11	69 30 $\frac{1}{2}$	251 57	Mr. Clerke.
	27 11 $\frac{1}{2}$	S. 44 37 $\frac{1}{2}$ E.	9	22 11 $\frac{1}{2}$	69 43	252 16	Capt. Cook.
29.	19 42 $\frac{1}{2}$	S. 67 21 $\frac{1}{2}$ W.	8	24 46	70 20	253 3	Mr. Clerke.
	19 13 $\frac{1}{2}$	S. 66 12 W.	5	24 32			Ditto.
31.	22 10 $\frac{1}{2}$	N. 51 57 E.	5	28 32	68 13	255 15	Gregory's compass.
Feb. 3.	19 33 $\frac{1}{2}$	S. 70 38 $\frac{1}{2}$ W.	10	23 1 $\frac{1}{2}$	66 16 $\frac{1}{2}$	258 45	Knight's ditto.
	17 18 $\frac{1}{2}$	S. 64 45 $\frac{1}{2}$ W.	10	23 34			Mr. Clerke.
	21 59 $\frac{1}{2}$	N. 57 10 $\frac{1}{2}$ E.	6	23 25 $\frac{1}{2}$	65 47 $\frac{1}{2}$	260 24	Capt. Cook.
	24 22 $\frac{1}{2}$	N. 50 9 E.	5	24 47 $\frac{1}{2}$	65 47 $\frac{1}{2}$		Ditto.
4.	19 58 $\frac{1}{2}$	S. 67 31 W.	5	27 7 $\frac{1}{2}$	65 34	260 14	
5.	15 32 $\frac{1}{2}$	S. 66 51 $\frac{1}{2}$ W.	6	18 49 $\frac{1}{2}$	63 57 $\frac{1}{2}$	260 8	Mr. Pickersgill.
	14 41 $\frac{1}{2}$	S. 64 35 W.	5	19 22 $\frac{1}{2}$	63 57 $\frac{1}{2}$		Mr. Clerke.
10.	18 53 $\frac{1}{2}$	S. 75 45 W.	5	15 32	53 7	262 50	
	18 10	S. 75 13 W.	5	15 5			
12.	5 2 $\frac{1}{2}$	S. 60 43 $\frac{1}{2}$ W.	6	13 55 $\frac{1}{2}$	50 11	264 35	
13.	16 34 $\frac{1}{2}$	S. 74 23 $\frac{1}{2}$ W.	10	14 40	50 30 $\frac{1}{2}$	263 36	
14.	15 40 $\frac{1}{2}$	S. 75 46 $\frac{1}{2}$ W.	8	12 31 $\frac{1}{2}$	49 28	264 4	Mr. Pickersgill.
	14 6 $\frac{1}{2}$	S. 73 31 $\frac{1}{2}$ W.	7	12 58			Great motion.
18.	14 30 $\frac{1}{2}$	S. 74 28 $\frac{1}{2}$ W.	6	13 16 $\frac{1}{2}$	43 40 $\frac{1}{2}$	265 45	Gregory's compass.
19.	14 14 $\frac{1}{2}$	S. 77 32 $\frac{1}{2}$ W.	9	10 5 $\frac{1}{2}$	41 41	265 3	Knight's ditto.
20.	14 33 $\frac{1}{2}$	S. 80 28 $\frac{1}{2}$ W.	10	7 21 $\frac{1}{2}$	39 32	266 0	

1774	Altitude of the ☉ I	Magnetic Azimuth of the ☉ & Center δ	Z 30	Vari- ation East	Latitude South	Longitude East	Observers, and Remarks
○ Feb 20	13 23 $\frac{1}{2}$	N 8 $\frac{1}{2}$ 4 $\frac{1}{2}$ E	11	8 3	38 22	266 18	Gregory's Compass
○ — 21	12 41 $\frac{1}{2}$	N 78 2 $\frac{1}{2}$ E	6	7 41	36 24	265 54	Ditto
☿ — 23	15 15 $\frac{1}{2}$	S 79 13 $\frac{1}{2}$ W	6	9 51 $\frac{1}{2}$	36 49	263 9	Ditto
☿ — 23	16 54 $\frac{1}{2}$	N 80 32 E	10	8 8	37 16	262 5	Knight's Compass
☿ — 25	13 18	S 81 5 $\frac{1}{2}$ W	10	6 50	37 44	259 21	Ditto
○ — 27	11 24 $\frac{1}{2}$	S 83 33 W	10	4 9	34 31 $\frac{1}{2}$	257 57	Gregory's Compass
☿ — 28	20 3 $\frac{1}{2}$	N 83 8 $\frac{1}{2}$ E	9	3 15	32 27 $\frac{1}{2}$	257 25	
☿ March 1	12 12 $\frac{1}{2}$	S 84 18 $\frac{1}{2}$ W	10	4 23	32 6	257 30	Gregory's Compass
☿ — 1	16 5 $\frac{1}{2}$	N 83 21 $\frac{1}{2}$ E	8	5 4	31 25	257 42	Knight's ditto
☿ — 2	14 36 $\frac{1}{2}$	S 85 19 W	10	5 2 $\frac{1}{2}$	31 5	257 52	Ditto
☿ — 3	9 23 $\frac{1}{2}$	S 83 8 $\frac{1}{2}$ W	8	4 26 $\frac{1}{2}$	30 25 $\frac{1}{2}$	258 45	Gregory's Compass
☿ — 3	12 46	N 84 56 $\frac{1}{2}$ E	10	5 13	30 8	249 3	Knight's ditto
☿ — 4	12 19 $\frac{1}{2}$	S 83 58 $\frac{1}{2}$ W	6	5 40	29 51 $\frac{1}{2}$	259 16	Ditto
☿ — 4	12 26 $\frac{1}{2}$	N 83 11 $\frac{1}{2}$ E	9	6 53	29 46	259 27	Ditto
☿ — 5	11 49 $\frac{1}{2}$	S 84 19 $\frac{1}{2}$ W	8	5 26 $\frac{1}{2}$	29 42	259 24	Gregory's Compass
○ — 6	9 44	S 84 36 W	10	4 11	29 11	258 48	Knight's ditto
☿ — 7	12 15 $\frac{1}{2}$	N 84 51 $\frac{1}{2}$ E	10	4 31	28 2	256 26	
☿ — 16	10 46 $\frac{1}{2}$	S 89 6 $\frac{1}{2}$ W	13	4 30 $\frac{1}{2}$	27 7	250 7	Off Easter Island
☿ — 16	15 30 $\frac{1}{2}$	N 80 4 $\frac{1}{2}$ E	8	3 32 $\frac{1}{2}$	26 56	249 50	
☿ — 17	8 25 $\frac{1}{2}$	N 83 46 E	10	3 15	26 16 $\frac{1}{2}$	248 50	
☿ — 18	4 40 $\frac{1}{2}$	S 88 39 $\frac{1}{2}$ W	7	2 47	25 54	248 35	
☿ — 18	11 50 $\frac{1}{2}$	N 81 21 $\frac{1}{2}$ E	8	3 41	25 36	248 20	
☿ — 19	9 57 $\frac{1}{2}$	S 90 31 $\frac{1}{2}$ W	6	3 29	24 32 $\frac{1}{2}$	248 7	
☿ — 19	14 36 $\frac{1}{2}$	N 80 44 $\frac{1}{2}$ E	8	3 5 $\frac{1}{2}$	23 26 $\frac{1}{2}$	247 40	
☿ — 24	14 55 $\frac{1}{2}$	N 85 39 $\frac{1}{2}$ W	6	1 52	16 54 $\frac{1}{2}$	243 10	
☿ — 25	9 52 $\frac{1}{2}$	N 81 28 $\frac{1}{2}$ E	10	2 31 $\frac{1}{2}$	15 6	241 0	
☿ — 26	9 33 $\frac{1}{2}$	N 87 50 $\frac{1}{2}$ W	9	2 38	14 26 $\frac{1}{2}$	240 18	
☿ — 26	17 37	N 80 35 $\frac{1}{2}$ E	10	2 23 $\frac{1}{2}$	13 31	239 20	
○ — 27	9 30 $\frac{1}{2}$	N 87 10 W	5	2 10	12 55	238 45	
☿ — 27	10 52 $\frac{1}{2}$	N 82 29 $\frac{1}{2}$ E	8	2 13	12 31	237 45	
☿ — 28	9 36 $\frac{1}{2}$	N 87 28 $\frac{1}{2}$ W	8	2 31	11 30	237 10	
☿ — 28	11 36 $\frac{1}{2}$	N 82 10 E	10	2 17	10 39 $\frac{1}{2}$	236 20	
☿ — 29	10 35 $\frac{1}{2}$	N 87 38 $\frac{1}{2}$ W	10	3 3	10 10	235 40	
☿ — 29	16 54 $\frac{1}{2}$	N 80 30 E	6	2 43 $\frac{1}{2}$	9 34 $\frac{1}{2}$	233 20	
☿ — 30	9 28 $\frac{1}{2}$	N 81 6 E	10	3 14	9 18 $\frac{1}{2}$	232 8	
☿ — 31	9 8 $\frac{1}{2}$	N 79 55 E	10	4 3	9 27	230 14	
☿ April 1	9 58 $\frac{1}{2}$	N 79 29 $\frac{1}{2}$ E	10	3 56	9 28 $\frac{1}{2}$	228 26	
☿ — 2	9 31 $\frac{1}{2}$	N 78 5 $\frac{1}{2}$ E	10	3 58 $\frac{1}{2}$	9 32 $\frac{1}{2}$	226 44	
○ — 3	12 22 $\frac{1}{2}$	N 77 52 E	10	4 15	9 32 $\frac{1}{2}$	224 58	
☿ — 4	14 29 $\frac{1}{2}$	N 76 50 E	7	4 27	9 33 $\frac{1}{2}$	223 20	Cloudy
☿ — 5	9 33 $\frac{1}{2}$	N 77 42 $\frac{1}{2}$ E	10	4 13 $\frac{1}{2}$	9 21	222 2	
☿ — 6	8 55 $\frac{1}{2}$	N 76 4 E	10	5 33 $\frac{1}{2}$	9 36 $\frac{1}{2}$	221 10	
☿ — 9	12 14 $\frac{1}{2}$	N 81 23 $\frac{1}{2}$ W	6	1 28	9 55 $\frac{1}{2}$	220 51 $\frac{1}{2}$	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas I can assign no reason for the small- ness of the preceding variation, if it was not occasioned by drawing the binnacle a little towards the larboard side of the ship, to have the sun clear of some plantains which were hung up aft

1774.	Altitude of the ☉, L. L.	Magnetic Azimuth of the ☉'s Center.	No. of Obs.	Vari- ation Balt.	Latitude South.	Longitude East.	Observer, and Remarks.
♂ April 12.	15 23 $\frac{1}{2}$	N. 82 26 $\frac{1}{2}$ W.	8	4 22 $\frac{1}{2}$	9 50	220 48	
	11 50 $\frac{1}{2}$	N. 72 59 $\frac{1}{2}$ E.	10	5 28 $\frac{1}{2}$	10 30	220 8	
♀ — 13.	6 46 $\frac{1}{2}$	N. 74 0 $\frac{1}{2}$ E.	8	5 1 $\frac{1}{2}$	11 52	219 10	
♂ — 14.	9 13	N. 84 3 $\frac{1}{2}$ W.	10	6 3 $\frac{1}{2}$	12 42	218 37	
	12 24 $\frac{1}{2}$	N. 70 56 $\frac{1}{2}$ E.	6	5 51 $\frac{1}{2}$	13 20	217 48	
♀ — 15.	13 50	N. 69 31 $\frac{1}{2}$ E.	10	6 9	14 17 $\frac{1}{2}$	216 36	
♂ — 16.	15 30 $\frac{1}{2}$	N. 68 44 $\frac{1}{2}$ E.	10	5 55	14 29	215 22	
⊙ — 17.	10 3 $\frac{1}{2}$	N. 70 58 $\frac{1}{2}$ E.	10	5 5	14 34 $\frac{1}{2}$	214 45	
♂ — 18.	5 30 $\frac{1}{2}$	N. 69 22 $\frac{1}{2}$ E.	6	7 33 $\frac{1}{2}$	15 33	213 43	
♀ — 20.	8 41 $\frac{1}{2}$	N. 67 54 $\frac{1}{2}$ E.	10	6 51 $\frac{1}{2}$	17 12 $\frac{1}{2}$	211 18	
♂ May 21.	7 25 $\frac{1}{2}$	N. 71 58 $\frac{1}{2}$ W.	6	5 44 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	In Owharri harbour, Hua- heine. The two first were taken on board the ship, the two latter on shore. I used the same compass, but two different cards.
	6 0 $\frac{1}{2}$	N. 71 39 $\frac{1}{2}$ W.	6	4 53	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
⊙ — 22.	9 54 $\frac{1}{2}$	N. 70 29 $\frac{1}{2}$ W.	6	5 28 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
	7 35 $\frac{1}{2}$	N. 71 14 $\frac{1}{2}$ W.	6	5 16 $\frac{1}{2}$	16 42 $\frac{1}{2}$	208 50 $\frac{1}{2}$	
⊙ — 29.	11 53 $\frac{1}{2}$	N. 68 55 $\frac{1}{2}$ W.	6	6 9 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	Taken on board the ship in Ohamaneno harbour, Uli- tea. I used the same com- pass-box in every one, but two different cards.
	10 18 $\frac{1}{2}$	N. 69 11 $\frac{1}{2}$ W.	6	5 43 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ — 30.	5 53 $\frac{1}{2}$	N. 71 24 $\frac{1}{2}$ W.	6	6 17 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
	4 59 $\frac{1}{2}$	N. 71 59 $\frac{1}{2}$ W.	6	6 31 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ — 31.	9 55 $\frac{1}{2}$	N. 69 21 $\frac{1}{2}$ W.	6	6 2 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
	8 31 $\frac{1}{2}$	N. 69 34 $\frac{1}{2}$ W.	6	5 40 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
♂ June 1	15 25 $\frac{1}{2}$	N. 67 6 $\frac{1}{2}$ W.	6	6 30 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	On shore in Ohamaneno har- bour. Cloudy, and uncertain.
	13 13 $\frac{1}{2}$	N. 67 58 $\frac{1}{2}$ W.	6	6 17 $\frac{1}{2}$	16 45 $\frac{1}{2}$	208 23 $\frac{1}{2}$	
⊙ — 5.	17 46 $\frac{1}{2}$	N. 52 53 E.	10	6 0	16 49 $\frac{1}{2}$	206 30	
♀ — 8.	7 13 $\frac{1}{2}$	N. 71 6 $\frac{1}{2}$ W.	9	7 55 $\frac{1}{2}$	17 33	204 4	
	8 55	N. 64 5 $\frac{1}{2}$ E.	8	8 16	17 37 $\frac{1}{2}$	203 48	
♂ — 9.	9 12 $\frac{1}{2}$	N. 70 14 W.	10	8 3 $\frac{1}{2}$	17 40	203 22	
♀ — 10.	7 12 $\frac{1}{2}$	N. 71 38 $\frac{1}{2}$ W.	10	8 43	17 48 $\frac{1}{2}$	202 50	
	11 8	N. 52 15 E.	8	8 49	17 51	202 35	
♂ — 13.	6 43	N. 53 21 $\frac{1}{2}$ E.	10	9 15 $\frac{1}{2}$	18 40 $\frac{1}{2}$	197 37	
♂ — 14.	6 35 $\frac{1}{2}$	N. 71 10 W.	10	8 29 $\frac{1}{2}$	18 34 $\frac{1}{2}$	197 23	
	5 51 $\frac{1}{2}$	N. 54 40 E.	10	8 19	18 32	197 24	
♀ — 15.	7 57 $\frac{1}{2}$	N. 71 27 $\frac{1}{2}$ W.	5	9 24	18 25	197 10	
	7 43 $\frac{1}{2}$	N. 52 54 E.	10	9 16 $\frac{1}{2}$	18 21	196 54	
♂ — 16.	8 31 $\frac{1}{2}$	N. 51 51 $\frac{1}{2}$ E.	10	10 1	18 0 $\frac{1}{2}$	196 0	
♀ — 17.	7 44 $\frac{1}{2}$	N. 51 42 $\frac{1}{2}$ E.	10	10 23	18 16	194 31	
♂ — 18.	8 25 $\frac{1}{2}$	N. 51 17 $\frac{1}{2}$ E.	10	10 26 $\frac{1}{2}$	18 22 $\frac{1}{2}$	193 4	
♀ — 20.	12 28	N. 49 51 E.	10	9 38	18 54 $\frac{1}{2}$	190 40	
♂ — 21.	4 12	N. 74 56 $\frac{1}{2}$ W.	10	11 25	19 3 $\frac{1}{2}$	190 20	
	1 $\frac{1}{2}$ 11 $\frac{1}{2}$	N. 49 9 $\frac{1}{2}$ E.	10	10 48 $\frac{1}{2}$	19 20	189 56	
♀ — 22.	14 0 $\frac{1}{2}$	N. 69 30 W.	5	11 8 $\frac{1}{2}$	19 27 $\frac{1}{2}$	189 36	
	8 22 $\frac{1}{2}$	N. 50 17 $\frac{1}{2}$ E.	9	10 59	19 43	188 39	
♂ — 23.	8 19 $\frac{1}{2}$	N. 49 24 E.	10	11 40 $\frac{1}{2}$	20 24 $\frac{1}{2}$	186 52	Ship's head W. S. W.
♀ — 24.	13 49 $\frac{1}{2}$	N. 48 43 $\frac{1}{2}$ E.	8	9 21 $\frac{1}{2}$	20 12	186 10	Dirto E. S. E.
♂ — 25.	11 31 $\frac{1}{2}$	N. 47 16 $\frac{1}{2}$ E.	8	12 6 $\frac{1}{2}$	20 26 $\frac{1}{2}$	185 42	Dirto W. S. W.

1774	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ & Center	☉ E. or W.	Vari- ation East	Latitude South	Longitude East	Observers, and Remarks
O June 26	5 57 $\frac{1}{2}$	N 51 17 E	10	11 5 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ship's head E S E
D — 27	6 8 $\frac{1}{2}$	N 71 24 $\frac{1}{2}$ W	6	9 7 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto N E
	Amplit	N 74 2 $\frac{1}{2}$ W	1	9 18 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto N E
	Amplit	N 55 20 E	1	9 41 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E
	11 17 $\frac{1}{2}$	N 50 11 $\frac{1}{2}$ E	10	9 29 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E
8 — 28	7 38 $\frac{1}{2}$	N 71 35 E	8	9 59 $\frac{1}{2}$	20 15	185 29 $\frac{1}{2}$	Ditto E N E
8 — 29	7 45 $\frac{1}{2}$	N 73 26 W	10	11 49 $\frac{1}{2}$	20 10	185 25	Ship's head S S W
	18 5 $\frac{1}{2}$	N 44 39 $\frac{1}{2}$ E	8	11 8 $\frac{1}{2}$	20 1 $\frac{1}{2}$	184 40	Ditto N W
h July 2	10 23 $\frac{1}{2}$	N 47 56 E	10	12 47	19 45	182 13	
O — 3	13 30 $\frac{1}{2}$	N 71 6 $\frac{1}{2}$ W	8	12 9	19 48 $\frac{1}{2}$	182 0	
	40 40 $\frac{1}{2}$	N 48 41 $\frac{1}{2}$ E	5	11 52 $\frac{1}{2}$	19 58	181 40	
D — 4	3 51 $\frac{1}{2}$	N 76 9 W	10	12 17	20 10 $\frac{1}{2}$	181 20	
	Amplit	N 78 10 W	1	12 40	20 11	181 18	
	5 56 $\frac{1}{2}$	N 50 28 $\frac{1}{2}$ E	8	12 29 $\frac{1}{2}$	20 34 $\frac{1}{2}$	180 44	
8 — 5	10 2 $\frac{1}{2}$	N 48 0 E	3	12 44	20 52	179 34	
8 — 6	16 31 $\frac{1}{2}$	N 44 44 E	10	12 17 $\frac{1}{2}$	20 53 $\frac{1}{2}$	178 41	Mr Clerke
u — 7	12 31 $\frac{1}{2}$	N 46 54 $\frac{1}{2}$ E	10	12 59	20 47 $\frac{1}{2}$	177 50	Cloudy
8 — 8	6 52 $\frac{1}{2}$	N 49 47 $\frac{1}{2}$ E	10	13 8	20 20	176 23	
O — 10	6 5	N 74 45 $\frac{1}{2}$ W	7	11 1	19 30 $\frac{1}{2}$	175 08	Cloudy
	9 48 $\frac{1}{2}$	N 51 56 $\frac{1}{2}$ E	8	10 21 $\frac{1}{2}$	18 49 $\frac{1}{2}$	175 14	Ditto
D — 11	10 3 $\frac{1}{2}$	N 52 19 E	10	10 28 $\frac{1}{2}$	17 38 $\frac{1}{2}$	174 29	
8 — 12	5 18 $\frac{1}{2}$	N 54 46 $\frac{1}{2}$ E	6	10 24 $\frac{1}{2}$	16 37	173 38	Gregory's Compass
	8 26 $\frac{1}{2}$	N 53 20 E	6	10 38 $\frac{1}{2}$	16 37	173 38	Knight's ditto
8 — 13	6 14 $\frac{1}{2}$	N 75 30 $\frac{1}{2}$ W	10	10 35	16 15 $\frac{1}{2}$	173 15	Gregory's ditto
	7 31 $\frac{1}{2}$	N 54 30 $\frac{1}{2}$ E	10	10 13 $\frac{1}{2}$	15 49	172 42	Knight's ditto
u — 14	11 28 $\frac{1}{2}$	N 52 30 E	10	11 3 $\frac{1}{2}$	15 13 $\frac{1}{2}$	171 38	Ditto
8 — 22	23 33 $\frac{1}{2}$	N 49 20 $\frac{1}{2}$ E	6	9 10 $\frac{1}{2}$	16 24	167 53	Capt Cook Ship's Comp
O — 24	15 5	N 51 49 E	10	11 24	17 6	168 36	
D — 25	12 31 $\frac{1}{2}$	N 74 13 W	5	9 36 $\frac{1}{2}$	17 23	168 38	
	10 12	N 56 50 $\frac{1}{2}$ E	6	8 44 $\frac{1}{2}$	17 21 $\frac{1}{2}$	168 38	
8 — 26	14 15 $\frac{1}{2}$	N 54 25 E	10	9 18 $\frac{1}{2}$	17 52 $\frac{1}{2}$	169 10	
8 — 27	13 5 $\frac{1}{2}$	N 73 20 W	5	9 2 $\frac{1}{2}$	18 12 $\frac{1}{2}$	169 30	
	6 14 $\frac{1}{2}$	N 55 19 $\frac{1}{2}$ E	6	12 6	18 25	169 47	
u — 28	10 16 $\frac{1}{2}$	N 77 59 W	10	12 12 $\frac{1}{2}$	18 24	169 46	Ship's head S W
	8 42 $\frac{1}{2}$	N 56 30 F	4	10 7 $\frac{1}{2}$	18 25 $\frac{1}{2}$	170 3	Knight's Comp Ship's head S W
	12 9 $\frac{1}{2}$	N 56 21 E	5	8 43	18 26 $\frac{1}{2}$	170 3	Ship's ditto Ship's h ditto
	13 14 $\frac{1}{2}$	N 55 46 E	5	8 47	18 26 $\frac{1}{2}$	170 3	Gregory's ditto Ship's h ditto
8 — 29	10 28 $\frac{1}{2}$	N 78 13 W	10	12 19	18 34 $\frac{1}{2}$	170 3	Knight's dit Ship's h S W
D — 30	10 21 $\frac{1}{2}$	N 78 6 $\frac{1}{2}$ W	8	12 26	18 30	169 42 $\frac{1}{2}$	Gregory's ditto Ship's h
	8 22 $\frac{1}{2}$	N 79 48 $\frac{1}{2}$ W	6	12 37 $\frac{1}{2}$	18 29 $\frac{1}{2}$	169 42 $\frac{1}{2}$	Knight's ditto S S W
	10 16	N 55 9 $\frac{1}{2}$ E	6	11 19 $\frac{1}{2}$	18 23 $\frac{1}{2}$	169 34	Gregory's ditto Ship's h
	12 49	N 55 50 $\frac{1}{2}$ E	6	9 38 $\frac{1}{2}$	18 23 $\frac{1}{2}$	169 34	Knight's ditto Ship's h
O — 31	9 45	N 78 16 $\frac{1}{2}$ W	6	11 2 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 32	Ditto } 1 after ly
	8 34 $\frac{1}{2}$	N 78 45 $\frac{1}{2}$ W	6	11 26 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 32	Gregory's Comp } Ship's
	Amplit	N 81 45 W	1	11 3 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 32	Ditto } head
	18 5 $\frac{1}{2}$	N 50 44 $\frac{1}{2}$ E	6	12 11 $\frac{1}{2}$	18 24 $\frac{1}{2}$	169 15	Ship's head S W } South

At anchor off Annapolis, near the Friendly Islands.

1774.	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s Center.	No. of Shots.	Vari- ation East.	Latitude South.	Longitude East.	Observers, and Remarks.
Aug. 1.	13 0 ¹⁰	N. 77 5 ¹ W.	6	11 38 ¹	18 47	169 10	Knight's Compaſs. } Ship's Gregory's ditto. } head E. S. E.
2.	15 59 ¹	N. 53 9 ¹ E.	6	11 6 ¹	18 44	169 2	
3.	8 14 ¹	N. 78 49 ¹ W.	8	10 53 ¹	18 42 ¹	169 2	
4.	Amplit.	N. 61 45 E.	1	10 10 ¹	18 36 ¹	169 15	
5.	9 18 ¹	N. 58 34 ¹ E.	6	8 8	18 36	169 15	Knight's Compaſs. } Ship's h. Gregory's ditto. } S. S. W.
6.	10 22 ¹	N. 58 25 E.	6	8 49 ¹	18 36 ¹	169 15	
7.	5 11 ¹	N. 61 11 E.	10	8 27	18 43	169 20 ¹	
8.	7 13 ¹	N. 58 37 ¹ E.	6	10 18	19 26 ¹	169 44	
9.	8 41 ¹	N. 58 37 ¹ E.	6	9 30 ¹	19 26 ¹	169 44	Knight's Comp. } Ship's h. Ship's ditto. } S. S. W. Gregory's Compaſs. Knight's ditto.
10.	5 48 ¹	N. 64 51 ¹ E.	4	10 25 ¹	18 39	168 55	
11.	8 20 ¹	N. 63 56 ¹ E.	3	10 20 ¹	18 39	168 55	
12.	9 37 ¹	N. 64 28 ¹ E.	8	10 9 ¹	16 52	168 35	
13.	Amplit.	N. 88 20 W.	1		15 55	167 25	Ship's Compaſs. Ditto. Knight's Compaſs. Cloudy.
14.	9 3	N. 64 54 ¹ E.	7	11 26 ¹	15 6 ¹	167 3	
15.	Ampl.	N. 69 15 E.	1		14 45	166 56	
16.	7 34 ¹	N. 66 20 ¹ E.	8	10 52	14 45	166 56	
17.	15 1	N. 62 58 ¹ E.	8	12 14 ¹	14 47 ¹	166 35	Ship's Compaſs. Ditto. Knight's Compaſs. Cloudy.
18.	10 22 ¹	N. 86 9 ¹ W.	6	9 15	14 48 ¹	166 37	
19.	15 23 ¹	N. 64 5 ¹ E.	6	11 19 ¹	14 57 ¹	166 34	
20.	9 49 ¹	N. 86 26 ¹ W.	4	8 47 ¹	15 23 ¹	166 35	
21.	6 6 ¹	N. 88 5 W.	3	9 12 ¹	15 23 ¹	166 35	Gregory's Compaſs. Ditto. Knight's Compaſs. Mr. Clerk's. Gregory's Comp. Gregory's Compaſs. Ditto. Knight's Compaſs.
22.	8 8 ¹	N. 70 5 ¹ E.	6	8 38 ¹	17 46	165 28	
23.	15 37 ¹	N. 85 51 ¹ W.	8	10 1 ¹	18 21	165 22	
24.	6 10 ¹	N. 89 6 ¹ W.	10	9 23	19 14 ¹	164 50	
25.	8 33 ¹	N. 69 10 E.	6	9 44 ¹	19 50	164 44	Gregory's Compaſs. Ditto. Knight's Compaſs. Mr. Clerk's. Gregory's Comp. Gregory's Compaſs. Ditto. Knight's Compaſs.
26.	10 46 ¹	N. 67 35 ¹ E.	6	10 25 ¹	19 50	164 44	
27.	7 2 ¹	N. 73 3 E.	5	7 59 ¹	20 18	164 40	
28.	8 5 ¹	N. 72 22 E.	5	8 15	20 18	164 40	
29.	6 0 ¹	N. 73 46 E.	5	7 42 ¹	20 18	164 40	Gregory's Compaſs. Knight's ditto. Capt. Cook. Ship's Comp. Ditto. Gregory's ditto.
30.	8 24 ¹	N. 72 22 E.	5	8 30 ¹	19 10	164 0	
31.	10 31 ¹	N. 71 9 E.	10	9 25	19 16 ¹	164 6	
32.	10 12 ¹	N. 72 3 E.	10	9 22 ¹	19 33 ¹	164 17	
33.	6 25 ¹	N. 73 27 ¹ E.	8	10 62 ¹	19 33	164 23	Ship's Compaſs. Knight's ditto. Ship's ditto. Gregory's ditto. Ship's ditto. Knight's ditto. Gregory's ditto.
34.	11 38 ¹	N. 88 26 ¹ W.	6	9 1 ¹	19 34	164 58	
35.	9 41 ¹	N. 72 31 ¹ E.	6	11 6	20 2	165 50	
36.	10 56 ¹	N. 72 47 ¹ E.	6	10 11 ¹	20 52	165 50	
37.	12 14 ¹	N. 72 26 ¹ E.	6	10 2 ¹	20 52	166 8	Ship's Compaſs. Knight's ditto. Ship's ditto. Gregory's ditto.
38.	15 53 ¹	N. 89 25 W.	8	9 22 ¹	20 52	166 8	
39.	16 26 ¹	N. 72 17 ¹ E.	2		20 52	166 8	
40.	11 49 ¹	N. 73 15 E.	6	10 52	20 52	166 8	
41.	13 14 ¹	N. 73 29 ¹ E.	6	10 3 ¹	20 52	166 8	Ship's Compaſs. Knight's ditto. Ship's ditto. Gregory's ditto.
42.	14 51 ¹	N. 71 51 ¹ E.	6	10 2	20 52	166 8	
43.	14 10 ¹	S. 86 46 ¹ W.	6	10 0 ¹	20 52	166 8	
44.	12 44 ¹	S. 85 30 ¹ W.	6	10 40 ¹	20 52	166 8	
45.	11 26 ¹	S. 85 46 ¹ W.	6	9 53	20 52	166 8	Ship's Compaſs. Knight's ditto. Ship's ditto. Gregory's ditto.
46.	9 55 ¹	N. 75 7 ¹ E.	6	10 12	20 52	166 8	
47.							
48.							

1774.	Altitude of the ☉ & L. L.	Magnetic Azimuth of the ☉ center	☉	Varia- tion East	Latitude South	Longitude East.	Observers and Remarks.
8 Sept. 21.	5 47 Amplit	S 83 4½ W	6	9 58	20 57½	166 10	
		N 81 30 E	1		21 12½		
21 — 22	9 33½	N 77 49½ E	6	7 52½	21 12½	166 42	Gregory's Compass
	10 47½	S 85 31 W	5	9 12	21 12½		Ship's ditto
	9 51½	S 85 47 W	5	8 22½	21 37½	166 50	Gregory's ditto
	11 2	N 76 23½ E	6	9 0	21 49½	167 2	
23 — 23	11 39½	N 73 58½ E	6	11 32½	21 57	167 28	
25 — 25	11 9½	N 77 21½ E	6	9 11½	22 9½	167 28	Ship's Compass
	12 41½	N 77 8½ E	6	8 45½			Knight's ditto
29 — 29	7 56½	N 80 55 E	6	8 34	22 28½	167 17	Ship's ditto
	9 15½	N 80 21 E	5	8 39			Knight's ditto
30 — 30	10 24½	S 81 7½ W	7	10 12½			Ship's ditto
	9 14½	S 80 38½ W	6	10 11½	22 41	167 25	Gregory's ditto } By Capt
	7 53½	S 78 57½ W	6	11 19½			Knight's ditto. } Cook
Oct. 2	11 1½	S 81 0½ W	6	9 52½			Ditto
	8 47½	S 80 51½ W	3	9 2	23 19½	169 40	Gregory's Compass
3 — 3	10 30½	N 80 36½ E	6	9 19½	25 13	171 8	Ditto
	12 52½	N 78 49½ E	6	9 43½			Knight's Compass
4 — 4	8 29½	S 78 48½ W	6	10 29	25 46½	171 21½	Gregory's ditto
	12 55½	N 77 15 E	6	11 22½	26 33½	171 35	Knight's ditto
5 — 5	11 55½	N 75 7½ E	6	14 10			Ditto
	13 18½	N 75 25½ E	6	12 58	27 54	171 47	Gregory's Compass
	14 46	N 74 5 E	6	13 40½			Knight's ditto
6 — 6	10 44½	S 80 6 W	5	9 50	27 52	171 45	Ditto, } Ship's h.
	8 46½	S 78 21 W	5	10 26½			Gregory's Comp } S P
	15 0½	N 76 48½ E	8	11 17½	27 52½	171 45	Ditto Ship's head N W
7 — 7	9 13½	N 77 40½ E	6	13 53			Knight's Compass
	10 17½	N 77 3½ E	6	13 54	28 16½	170 45	Ditto.
	12 35½	N 76 55½ E	6	12 47½			Gregory's Compass
8 — 8	4 58½	S 73 47 W	5	12 11			Ditto
	4 15½	S 72 18 W	5	13 16½	28 37½	170 19	Ship's Compass
	3 16½	N 71 6½ W	6	13 54			Knight's ditto
10 — 10	13 18	N 79 0½ E	6	11 28½			Ship's ditto
	14 59½	N 78 6½ E	6	11 25½	29 5½	168 10	Knight's ditto
	16 34	N 78 25 E	6	10 15½			Gregory's ditto
11 — 11	13 39½	S 78 20 W	6	11 19			Ship's ditto
	12 3½	S 77 53½ W	6	10 51½	29 37	168 2	Knight's ditto
	10 34½	S 78 7½ W	6	9 47½			Gregory's ditto
	14 24½	N 79 1½ E	8	10 64½	30 35½	167 51	Knight's ditto
12 — 12	21 41	N 76 9½ E	6	8 53	32 39	168 10	Gregory's ditto
13 — 13	12 20½	S 80 15 W	7	8 29	33 10½	168 36	Ditto
	17 37½	N 79 3½ E	6	8 47½	33 43	169 9	Ditto
14 — 14	11 24½	S 77 25½ W	6	10 29½	34 25½	169 45	Knight's Compass
	15 41½	N 78 53½ E	8	10 18½	35 18½	170 34	Ditto.
Nov 11	20 40½	N 81 26 E	5	13 15½	42 54½	175 30	
12 — 12	9 23½	S 62 14½ W	6	14 37½	43 34	175 58	

1774.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ center.	☉ of ☉	Vari- ation East.	Latitude South.	Longitude East.	Observers, and Remarks.
h Nov. 12.	20 24 $\frac{1}{2}$	N. 81 55 E.	6 13 26 $\frac{1}{2}$		44 7	176 53	
h — 14.	23 46 $\frac{1}{2}$	N. 78 39 E.	5 12 51		47 33	180 50	
h — 15.	12 53 $\frac{1}{2}$	S. 63 56 W.	5 12 42		48 6 $\frac{1}{2}$	181 23	
h — 16.	13 19 $\frac{1}{2}$	S. 64 13 $\frac{1}{2}$ W.	4 12 28		49 59	183 38	Very cloudy.
h — 17.	21 32 $\frac{1}{2}$	N. 82 38 $\frac{1}{2}$ E.	8 10 54 $\frac{1}{2}$		52 31 $\frac{1}{2}$	188 31	Mr. Gilbert.
h — 22.	22 56 $\frac{1}{2}$	N. 82 55 E.	5 9 35		55 42 $\frac{1}{2}$	204 34	Gregory's compass: cloudy.
h — 23.	20 24 $\frac{1}{2}$	S. 74 52 $\frac{1}{2}$ W.	12 8 49 $\frac{1}{2}$		55 42 $\frac{1}{2}$	204 40	
h — 25.	10 4 $\frac{1}{2}$	S. 61 5 $\frac{1}{2}$ W.	6 7 1 $\frac{1}{2}$		56 7	213 0	
h Dec. 1.	24 27 $\frac{1}{2}$	S. 87 55 $\frac{1}{2}$ E.	6 1 20		55 12	237 0	Gregory's compass: cloudy,
h — 3.	22 18 $\frac{1}{2}$	S. 85 54 $\frac{1}{2}$ E.	12 3 18		53 21	240 50	and a great sea.
h — 4.	13 23 $\frac{1}{2}$	S. 80 13 $\frac{1}{2}$ W.	6 3 35 $\frac{1}{2}$	53 15 $\frac{1}{2}$	53 15 $\frac{1}{2}$	242 17	Gregory's compass.
h — 4.	22 6 $\frac{1}{2}$	S. 78 59 $\frac{1}{2}$ W.	6 3 13 $\frac{1}{2}$				Knight's ditto.
h — 5.	18 27 $\frac{1}{2}$	S. 74 15 $\frac{1}{2}$ W.	10 3 5 $\frac{1}{2}$	53 6	53 6	246 10	Mr. Gilbert: Greg. compass.
h — 5.	16 43	S. 70 32 $\frac{1}{2}$ W.	6 4 26 $\frac{1}{2}$				Knight's compass.
h — 6.	8 24 $\frac{1}{2}$	S. 58 30 W.	8 4 58	53 13	250 5		Gregory's ditto.
h — 6.	15 55 $\frac{1}{2}$	S. 78 45 $\frac{1}{2}$ E.	7 5 7 $\frac{1}{2}$	53 17 $\frac{1}{2}$	252 0		Ditto.
h — 11.	24 5 $\frac{1}{2}$	S. 73 38 $\frac{1}{2}$ W.	8 9 54 $\frac{1}{2}$	53 29	53 29	264 40	Ditto.
h — 11.	20 40 $\frac{1}{2}$	S. 67 35 W.	4 11 31				Knight's compass.
h — 12.	15 0 $\frac{1}{2}$	S. 60 14 $\frac{1}{2}$ W.	6 11 17 $\frac{1}{2}$	53 21 $\frac{1}{2}$	53 21 $\frac{1}{2}$	268 24	Gregory's ditto.
h — 12.	14 6 $\frac{1}{2}$	S. 58 30 $\frac{1}{2}$ W.	6 11 48 $\frac{1}{2}$				Knight's ditto.
h — 13.	16 33 $\frac{1}{2}$	S. 86 1 $\frac{1}{2}$ E.	8 12 31	53 23 $\frac{1}{2}$	269 30		Gregory's ditto.
h — 13.	9 12 $\frac{1}{2}$	S. 49 30 $\frac{1}{2}$ W.	6 13 49 $\frac{1}{2}$	53 23 $\frac{1}{2}$	53 23 $\frac{1}{2}$	270 30	Knight's ditto.
h — 13.	8 37 $\frac{1}{2}$	S. 49 35 $\frac{1}{2}$ W.	6 12 56 $\frac{1}{2}$				Mr. Pickersgill: G.'s ditto.
h — 13.	14 29 $\frac{1}{2}$	S. 84 56 $\frac{1}{2}$ E.	6 14 4 $\frac{1}{2}$	53 24 $\frac{1}{2}$	53 24 $\frac{1}{2}$	272 28	Ditto.
h — 13.	16 42 $\frac{1}{2}$	S. 87 20 $\frac{1}{2}$ E.	6 13 32 $\frac{1}{2}$				Gregory's compass.
h — 14.	13 35 $\frac{1}{2}$	S. 53 11 $\frac{1}{2}$ W.	6 16 11 $\frac{1}{2}$	53 26 $\frac{1}{2}$	53 26 $\frac{1}{2}$	273 48	Knight's ditto.
h — 14.	12 8 $\frac{1}{2}$	S. 52 47 $\frac{1}{2}$ W.	6 14 35 $\frac{1}{2}$				Gregory's ditto.
h — 15.	16 16 $\frac{1}{2}$	S. 55 14 $\frac{1}{2}$ W.	6 17 37 $\frac{1}{2}$	53 30 $\frac{1}{2}$	277 30		Knight's ditto.
h — 16.	12 29 $\frac{1}{2}$	S. 49 17 $\frac{1}{2}$ W.	6 18 24 $\frac{1}{2}$	53 25 $\frac{1}{2}$	53 25 $\frac{1}{2}$	280 58	Mr. Gilbert: Greg. ditto.
h — 16.	11 4 $\frac{1}{2}$	S. 47 34 $\frac{1}{2}$ W.	6 18 15 $\frac{1}{2}$				Knight's ditto.
h — 16.	13 1 $\frac{1}{2}$	S. 86 38 E.	5 18 16 $\frac{1}{2}$	53 25	53 25	282 46	Mr. Pickersgill: with Gre-
h — 16.	19 36 $\frac{1}{2}$	S. 94 52 $\frac{1}{2}$ E.	17 44 $\frac{1}{2}$				gory's compass.
h — 17.	23 59 $\frac{1}{2}$	S. 102 30 $\frac{1}{2}$ E.	6 19 40 $\frac{1}{2}$	53 15 $\frac{1}{2}$	53 15 $\frac{1}{2}$	284 12	Mr. Gilbert: Greg. ditto.
h — 17.	16 22 $\frac{1}{2}$	S. 52 20 W.	6 20 31				Knight's ditto.
h — 18.	14 58 $\frac{1}{2}$	S. 49 46 $\frac{1}{2}$ W.	6 21 13 $\frac{1}{2}$	54 43 $\frac{1}{2}$	54 43 $\frac{1}{2}$	286 59	Ship's ditto.
h — 18.	16 43 $\frac{1}{2}$	S. 52 57 $\frac{1}{2}$ W.	6 20 10 $\frac{1}{2}$				Knight's ditto.
h — 18.	15 50 $\frac{1}{2}$	S. 50 49 $\frac{1}{2}$ W.	6 21 5 $\frac{1}{2}$	55 31 $\frac{1}{2}$	55 31 $\frac{1}{2}$	289 20	Gregory's ditto.
h — 19.	14 58 $\frac{1}{2}$	S. 50 15 W.	6 20 11 $\frac{1}{2}$				Ship's ditto.
h — 19.	17 31 $\frac{1}{2}$	S. 51 45 W.	6 22 22	55 20	55 20	293 55	Knight's ditto.
h — 19.	16 38 $\frac{1}{2}$	S. 60 35 $\frac{1}{2}$ W.	6 22 16 $\frac{1}{2}$				Ship's ditto.
h — 29.	18 45 $\frac{1}{2}$	S. 52 44 $\frac{1}{2}$ W.	6 23 28 $\frac{1}{2}$	55 20	55 20	293 55	Knight's ditto.
h — 29.	17 23 $\frac{1}{2}$	S. 49 56 $\frac{1}{2}$ W.	4 24 15 $\frac{1}{2}$				Ship's ditto.
h — 31.	14 9	S. 41 45 $\frac{1}{2}$ W.	6 25 22 $\frac{1}{2}$	54 41	54 41	295 46	Knight's ditto.
h — 31.	11 8	S. 39 53 $\frac{1}{2}$ W.	6 25 46				Ship's ditto.
h — 31.	25 44 $\frac{1}{2}$	N. 68 30 $\frac{1}{2}$ E.	6 25 24 $\frac{1}{2}$	54 41	54 41	295 46	Knight's ditto.
h — 31.	26 43 $\frac{1}{2}$	N. 67 11 $\frac{1}{2}$ E.	6 25 21				Knight's ditto.

1775	Alt. inde of the ☉ & L L	Magnetic Azimuth of the ☉ & cente	Z. North	Vari- ation East	Latitude South	Longitude East	Observers and Remarks
Jan 1	11 20 $\frac{1}{2}$	S 41 21	W	10 24 45 $\frac{1}{2}$	54 41	295 46	Knight's Compass
2	12 34 $\frac{1}{2}$	S 44 49 $\frac{1}{2}$	W	6 23 14 $\frac{1}{2}$	54 41	295 46	Ditto Mr Gilbert
3	18 26 $\frac{1}{2}$	N 83 35	E	8 19 54 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 7	Ship's Compass } The Ship
	20 24 $\frac{1}{2}$	N 80 56 $\frac{1}{2}$	E	8 19 47 $\frac{1}{2}$	55 11 $\frac{1}{2}$	297 7	Knight's ditto } rolled 28°
4	17 0 $\frac{1}{2}$	N 85 13 $\frac{1}{2}$	E	10 20 11 $\frac{1}{2}$	56 42 $\frac{1}{2}$	300 30	The Ship rolled 26°
5	19 16	N 77 10	E	4 24 36	57 22 $\frac{1}{2}$	306 19	Mr Pickersgill Greg Comp
	23 12 $\frac{1}{2}$	N 71 13	E	5 24 25 $\frac{1}{2}$	57 22 $\frac{1}{2}$	306 19	Knight's Comp Great motion
6	16 12 $\frac{1}{2}$	S 50 1 $\frac{1}{2}$	W	6 23 53 $\frac{1}{2}$	56 27 $\frac{1}{2}$	306 30	Ditto
8	12 57 $\frac{1}{2}$	S 50 3 $\frac{1}{2}$	W	8 19 55 $\frac{1}{2}$	55 3	303 10	Ditto
10	22 54	N 78 10	E	6 17 42	54 38 $\frac{1}{2}$	314 20	
14	29 56 $\frac{1}{2}$	S 78 49 $\frac{1}{2}$	W	12 15 44 $\frac{1}{2}$	53 57 $\frac{1}{2}$	320 35	
16	5 21 $\frac{1}{2}$	S 73 22 $\frac{1}{2}$	E	4 12 29 $\frac{1}{2}$	53 56	322 37	Mr Gilbert Ship's Compass
17	18 37 $\frac{1}{2}$	S 68 50	W	6 11 13 $\frac{1}{2}$	54 9	323 10	Ship's Compass
	19 6	N 89 0	E	2 10 1			Mr Clerke Ship's Compass
	20 31 $\frac{1}{2}$	N 85 46 $\frac{1}{2}$	E	6 11 18 $\frac{1}{2}$	54 20 $\frac{1}{2}$	323 54	Knight's Compass
	21 31 $\frac{1}{2}$	N 83 50	L	5 11 52 $\frac{1}{2}$			Ship's ditto
19	15 6	S 64 28 $\frac{1}{2}$	W	6 11 31 $\frac{1}{2}$			Ditto
	14 0	S 62 45	W	2 11 42 $\frac{1}{2}$	54 47 $\frac{1}{2}$	324 20	Knight's Compass
	12 49 $\frac{1}{2}$	S 59 48 $\frac{1}{2}$	W	3 12 59 $\frac{1}{2}$			Ditto
	12 58	S 88 28 $\frac{1}{2}$	E	6 15 13 $\frac{1}{2}$			Ship's Compass
	14 9 $\frac{1}{2}$	N 88 39 $\frac{1}{2}$	E	6 16 30 $\frac{1}{2}$	54 59 $\frac{1}{2}$	323 40	Knight's ditto
22	19 48 $\frac{1}{2}$	S 69 26 $\frac{1}{2}$	W	8 14 15 $\frac{1}{2}$	54 54 $\frac{1}{2}$	325 37	{ Mr Gilbert Greg Comp
23	11 42 $\frac{1}{2}$	S 83 43 $\frac{1}{2}$	E	3 10 42 $\frac{1}{2}$	54 57 $\frac{1}{2}$	325 25	{ A bad horizon
25	18 20 $\frac{1}{2}$	S 74 28	W	5 9 6			Bad horizon
	17 19 $\frac{1}{2}$	S 74 11 $\frac{1}{2}$	W	6 7 24 $\frac{1}{2}$	56 14 $\frac{1}{2}$	327 30	Knight's Compass
	16 10 $\frac{1}{2}$	S 71 16	W	5 8 38			Gregory's ditto
	14 21 $\frac{1}{2}$	S 89 50	E	5 12 33 $\frac{1}{2}$	57 4 $\frac{1}{2}$	328 58	Knight's ditto
26	17 9 $\frac{1}{2}$	S 94 30	E	6 11 37 $\frac{1}{2}$			Ditto
	18 33 $\frac{1}{2}$	N 84 36 $\frac{1}{2}$	E	6 10 43 $\frac{1}{2}$	59 14	329 0	Gregory's Compass
31	14 2 $\frac{1}{2}$	S 89 37	E	8 10 47 $\frac{1}{2}$			Knight's ditto
	15 30 $\frac{1}{2}$	S 92 45 $\frac{1}{2}$	E	8 10 37 $\frac{1}{2}$	58 37 $\frac{1}{2}$	332 45	Ship's ditto } Capt Cook
Feb 2	13 56 $\frac{1}{2}$	S 70 50	W	3 9 49 $\frac{1}{2}$			Knight's ditto } Mr Gilbert Ship's Comp
	13 33 $\frac{1}{2}$	S 70 35	W	5 9 15 $\frac{1}{2}$	57 48 $\frac{1}{2}$	333 8	The same Compass
5	15 58	S 80 37 $\frac{1}{2}$	W	2 4 33 $\frac{1}{2}$			Mr Gilbert
	14 56	S 79 15	W	1 4 20 $\frac{1}{2}$	57 16 $\frac{1}{2}$	336 38	Mr Clerke } Ship's Compass
	14 9 $\frac{1}{2}$	S 76 12 $\frac{1}{2}$	W	6 6 11			
7	14 30 $\frac{1}{2}$	S 82 17 $\frac{1}{2}$	W	8 1 52 $\frac{1}{2}$	58 28	342 50	Knight's Compass
	18 39	N 86 3	E	5 2 42 $\frac{1}{2}$			Gregory's Compass
	19 25 $\frac{1}{2}$	N 86 42 $\frac{1}{2}$	E	6 0 46 $\frac{1}{2}$			Ship's ditto } Mr Gil
	20 13 $\frac{1}{2}$	N 83 48	E	5 2 21	58 29 $\frac{1}{2}$	344 40	Knight's ditto } bert
	21 32 $\frac{1}{2}$	N 80 49	E	5 3 5 $\frac{1}{2}$			Knight's Compass
8	9 36 $\frac{1}{2}$	S 77 30	E	6 0 23 $\frac{1}{2}$			Gregory's dit Mr Pickersgill
	12 44 $\frac{1}{2}$	S 83 5	E	3 0 50 $\frac{1}{2}$	58 28	346 44	Knight's Compass
9	14 16 $\frac{1}{2}$	S 85 5 $\frac{1}{2}$	W	8 0 7 $\frac{1}{2}$	58 26 $\frac{1}{2}$	346 53	Ditto

333

5 1.

1775	Altitude of the ☉ L L	Magnetic Azimuth of the ☉ s Center	No of Obs	Vari- ation West	Latitude North	Longitude West	Observers and Remarks
♂ May 9	7 22 $\frac{1}{2}$ 8 57 $\frac{1}{2}$	N 54 59 $\frac{1}{2}$ W N 81 25 $\frac{1}{2}$ E	6 13 11 $\frac{1}{2}$ 6 14 55 $\frac{1}{2}$		20 31 $\frac{1}{2}$ 19 49	0 4 0 48	Gregory's Compaſs Mr Burr
♂ — 11	3 17 $\frac{1}{2}$ 10 58 $\frac{1}{2}$	N 55 47 $\frac{1}{2}$ W N 80 22 $\frac{1}{2}$ E	6 14 0 8 13 57		18 44 $\frac{1}{2}$ 18 32 $\frac{1}{2}$	2 23 2 35	
♀ — 12	4 17 $\frac{1}{2}$ 7 53 $\frac{1}{2}$	N 55 31 $\frac{1}{2}$ W N 81 20 E	8 13 38 $\frac{1}{2}$ 6 13 33 $\frac{1}{2}$		18 21 $\frac{1}{2}$ 17 55	2 45 3 5	
♂ — 13	16 53 $\frac{1}{2}$	N 77 32 $\frac{1}{2}$ E	6 13 51 $\frac{1}{2}$		16 56 $\frac{1}{2}$	4 2	
♂ — 14	7 26 $\frac{1}{2}$	N 81 4 $\frac{1}{2}$ E	6 13 15 $\frac{1}{2}$		16 10 $\frac{1}{2}$	4 55	
♂ — 17	8 52 $\frac{1}{2}$	N 54 26 $\frac{1}{2}$ W	6 12 18 $\frac{1}{2}$		15 55 $\frac{1}{2}$	5 49	
♂ — 22	24 3	N 71 1 E	5 12 12 $\frac{1}{2}$		14 45 $\frac{1}{2}$	7 40	
♂ — 23	8 20 $\frac{1}{2}$	N 77 30 $\frac{1}{2}$ E	8 11 24 $\frac{1}{2}$		13 45 $\frac{1}{2}$	9 40	
♂ — 24	9 21 $\frac{1}{2}$ 10 51 $\frac{1}{2}$	N 76 47 $\frac{1}{2}$ E N 76 55 $\frac{1}{2}$ E	6 10 56 $\frac{1}{2}$ 6 11 21 $\frac{1}{2}$		12 9	10 48	
♂ — 25	9 10 $\frac{1}{2}$	N 77 35 E	6 11 13		10 21	11 40	
♀ — 26	8 26 $\frac{1}{2}$	N 77 56 $\frac{1}{2}$ E	6 11 9 $\frac{1}{2}$		8 38 $\frac{1}{2}$	12 45	On board the ſhip at St Helena Mr Gilbert
♂ — 27	10 32 $\frac{1}{2}$	N 77 20 $\frac{1}{2}$ E	6 10 42 $\frac{1}{2}$		7 55	13 45	
♂ — 28	3 24 $\frac{1}{2}$ Amphic	N 56 48 $\frac{1}{2}$ W N 57 20 W	12 10 54 $\frac{1}{2}$ 1 11 21 $\frac{1}{2}$		7 56	14 30	
♂ — 30	Ditto	N 57 16 W	1 11 7 $\frac{1}{2}$				
♂ — 31	5 22 $\frac{1}{2}$ 11 33 $\frac{1}{2}$	N 55 46 $\frac{1}{2}$ W N 75 49 $\frac{1}{2}$ E	6 11 6 $\frac{1}{2}$ 6 10 9 $\frac{1}{2}$		7 50 $\frac{1}{2}$ 7 7 $\frac{1}{2}$	14 37 15 6	
♂ June 1	9 8 $\frac{1}{2}$	N 75 47 $\frac{1}{2}$ E	6 9 39 $\frac{1}{2}$		6 45 $\frac{1}{2}$	16 55	
♀ — 2	14 25 $\frac{1}{2}$	N 74 1 $\frac{1}{2}$ E	6 9 8		6 29	18 55	
♂ — 3	10 12 $\frac{1}{2}$	N 73 41 $\frac{1}{2}$ E	6 8 11 $\frac{1}{2}$		6 4 $\frac{1}{2}$	21 8	
♂ — 4	8 32	N 72 50 $\frac{1}{2}$ E	6 6 44 $\frac{1}{2}$		5 43 $\frac{1}{2}$	23 15	
♂ — 5	8 4 $\frac{1}{2}$	N 71 57 $\frac{1}{2}$ E	6 5 47 $\frac{1}{2}$		5 14 $\frac{1}{2}$	25 35	
♂ — 6	6 57 $\frac{1}{2}$ 8 58 $\frac{1}{2}$	N 70 39 $\frac{1}{2}$ E N 70 49 $\frac{1}{2}$ E	10 4 22 $\frac{1}{2}$ 8 4 51 $\frac{1}{2}$		5 1	27 35	Knight's compaſs Gregory's ditto
♂ — 7	8 56 $\frac{1}{2}$	N 69 45 $\frac{1}{2}$ E	9 3 40 $\frac{1}{2}$		3 59	29 10	
♂ — 8	9 11 $\frac{1}{2}$	N 67 41 $\frac{1}{2}$ E	8 1 25 $\frac{1}{2}$		3 43 $\frac{1}{2}$	31 35	
♀ — 9	17 57 $\frac{1}{2}$ 16 3 $\frac{1}{2}$	N 62 41 $\frac{1}{2}$ W N 64 34 $\frac{1}{2}$ W	6 1 37 $\frac{1}{2}$ 6 0 23 $\frac{1}{2}$		3 47 $\frac{1}{2}$	32 33	
♂ — 10	6 36 $\frac{1}{2}$ 13 1 $\frac{1}{2}$ 14 2 $\frac{1}{2}$	N 66 43 $\frac{1}{2}$ E N 64 51 $\frac{1}{2}$ W N 66 37 $\frac{1}{2}$ E	6 0 14 $\frac{1}{2}$ 8 1 2 8 0 39 $\frac{1}{2}$		2 24 1 34 0 35 $\frac{1}{2}$	32 12 32 0 32 0	
♂ — 11	17 10 9 11	N 64 22 W N 68 9 E	10 1 25 7 1 22 $\frac{1}{2}$		0 13 $\frac{1}{2}$ 1 27 $\frac{1}{2}$	31 50 31 40	
♂ — 12	17 25 $\frac{1}{2}$	N 63 59 $\frac{1}{2}$ W	6 2 21 $\frac{1}{2}$		2 13	31 36	
♂ — 13	10 36 $\frac{1}{2}$	N 69 20 E	4 2 13 $\frac{1}{2}$		4 23 $\frac{1}{2}$	31 28	
♂ — 14	17 13 $\frac{1}{2}$	N 65 33 $\frac{1}{2}$ W	12 1 26 $\frac{1}{2}$		4 36 $\frac{1}{2}$	31 20	
♀ — 16	10 65 $\frac{1}{2}$	N 62 8 $\frac{1}{2}$ W	8 5 11 $\frac{1}{2}$		5 11 $\frac{1}{2}$	30 14	Very cloudy
♂ — 17	10 58 $\frac{1}{2}$	N 61 45 W	1 5 32		6 14	30 1	
♂ — 18	9 27 $\frac{1}{2}$	N 71 33 $\frac{1}{2}$ E	8 4 16		6 59 $\frac{1}{2}$	30 10	
♂ — 19	9 34 $\frac{1}{2}$	N 72 12 $\frac{1}{2}$ E	7 4 47 $\frac{1}{2}$		7 53 $\frac{1}{2}$	30 40	
♂ — 20	10 93 $\frac{1}{2}$	N 71 55 $\frac{1}{2}$ E	6 4 14 $\frac{1}{2}$		9 9	32 18	

1775.	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center.	N S E W	Varia- tion Well.	Latitude North.	Longitude " Well.	Observers, and Remarks.
June 21.	12 15 ¹	N. 71 28 E.	10	3 23	10 47 ¹	33 30	Taken on board the ship in Payal Bay. See also p. 140.
" 23.	11 1 ¹	N. 72 20 ¹ E.	7	3 57 ¹	14 13 ¹	36 0	
" 24.	17 42 ¹	N. 65 57 ¹ W.	8	3 46 ¹	14 56 ¹	36 15	
" 26.	13 0	N. 65 35 W.	6	3 41	18 15	38 34	
" 27.	7 23 ¹	N. 72 30 E.	7	4 40	19 8 ¹	38 57	
" 27.	9 7 ¹	N. 64 20 ¹ W.	8	4 4 ¹	19 57 ¹	39 15	
" 29.	9 35 ¹	N. 72 16 ¹ E.	6	3 37 ¹	20 50 ¹	39 33	
" 29.	16 14 ¹	N. 65 50 ¹ W.	6	5 61	23 36	40 10	
" 30.	16 31 ¹	N. 77 47 ¹ E.	2	6 8 ¹	24 42 ¹	40 37	
" 30.	14 51 ¹	N. 65 3 ¹ W.	6	6 4 ¹	25 36 ¹	40 50	
" 30.	7 40 ¹	N. 73 57 ¹ E.	10	5 58 ¹	26 34 ¹	41 5	
July 1.	12 44	N. 64 49 ¹ W.	6	5 36 ¹	27 33 ¹	41 10	
" 2.	8 4 ¹	N. 75 3 ¹ E.	6	6 35 ¹	28 13 ¹	41 25	
" 2.	18 32 ¹	N. 80 10 ¹ E.	10	6 32 ¹	29 42 ¹	41 3	
" 3.	10 54 ¹	N. 77 29 ¹ E.	8	7 43	30 52 ¹	40 37	
" 5.	17 42 ¹	N. 64 1 ¹ W.	6	9 53	32 38 ¹	39 58	
" 5.	10 57 ¹	N. 79 18 ¹ E.	6	9 20	33 2	39 58	
" 6.	16 24 ¹	N. 64 6 ¹ W.	6	9 14 ¹	33 10 ¹	39 57 ¹	
" 6.	10 13 ¹	N. 79 10 E.	6	9 33	33 22 ¹	39 48	
" 7.	12 42 ¹	N. 62 17 ¹ W.	6	8 58	33 39 ¹	39 44	
" 8.	4 13 ¹	N. 55 47 ¹ W.	6	9 47	34 18 ¹	39 43	
" 8.	14 16 ¹	N. 81 23 ¹ E.	8	10 53 ¹	34 52	39 45	
" 9.	14 32 ¹	N. 62 37 ¹ W.	8	10 8 ¹	35 11 ¹	39 40	
" 9.	12 53 ¹	N. 81 53 ¹ E.	6	10 8 ¹	35 28 ¹	39 0	
" 10.	15 10 ¹	N. 62 52 ¹ W.	7	10 33 ¹	36 0 ¹	38 20	
" 11.	6 19 ¹	N. 54 22 ¹ W.	7	12 8 ¹	37 9 ¹	35 20	
" 12.	11 34 ¹	N. 59 27 W.	10	14 42 ¹	38 13 ¹	32 10	
" 13.	12 23 ¹	N. 55 39 ¹ W.	6	10 17 ¹	38 33	29 15	
" 14.	18 43 ¹	N. 81 36 ¹ E.	6	21 19	38 31 ¹	28 33	
" 19.	15 19 ¹	N. 80 48 ¹ E.	8	17 33	39 8 ¹	25 50	
" 21.	10 55 ¹	N. 56 4 ¹ W.	10	16 17 ¹	39 26	23 36	
" 22.	9 39 ¹	N. 54 44 ¹ W.	6	16 57 ¹	39 51 ¹	22 13	
" 23.	14 5 ¹	N. 57 34 ¹ W.	8	17 44 ¹	41 12 ¹	19 42	
" 24.	11 49 ¹	N. 51 5 ¹ W.	10	13 59 ¹	42 29	17 45	
" 25.	8 51 ¹	N. 59 49 ¹ W.	9	20 39 ¹	44 6	15 50	
" 26.	16 34 ¹	S. 79 11 ¹ E.	8	21 53 ¹	45 5	14 35	
" 27.	15 27 ¹	N. 59 14 W.	8	19 40 ¹	47 32 ¹	10 37	
" 28.	14 42 ¹	N. 58 52 W.	10	19 10 ¹	48 27 ¹	7 58	
" 29.	16 11 ¹	S. 60 45 W.	3	19 24	50 6 ¹	4 0	
" 29.	14 10 ¹	N. 58 21 ¹ W.	6	19 28			

E R R A T A.

Page 2, in the title to the right-hand Col on the lower part of the page, for *gains* read *loss*
 Page 65 In the title to the right hand Col at the top of the page for *gains* read *loss*
 For page 136 read page 139
 Page 281 Sept 23d Col 6 for 2h 25 55 $\frac{1}{2}$ read 2h 25 25 $\frac{1}{2}$
 Page 282 Oct. 10th Col 3 for 21h 47' 5 read 21h 7' 33"
 Page 282 July 20th Col 3, for oh 34 10 read oh 34 40"
 Page 311 Aug 4th Col 10, for 19° 11 $\frac{1}{2}$ read 18 31 $\frac{1}{2}$
 Page 311 Aug 6th Col 10, for 18° 34 $\frac{1}{2}$ read 19 14 $\frac{1}{2}$
 Page 328 Longitude of Cape Noir Col 9, for 287 56 $\frac{1}{2}$, read 286° 56 $\frac{1}{2}$
 In many places *del* e in Mr Bayly's name.